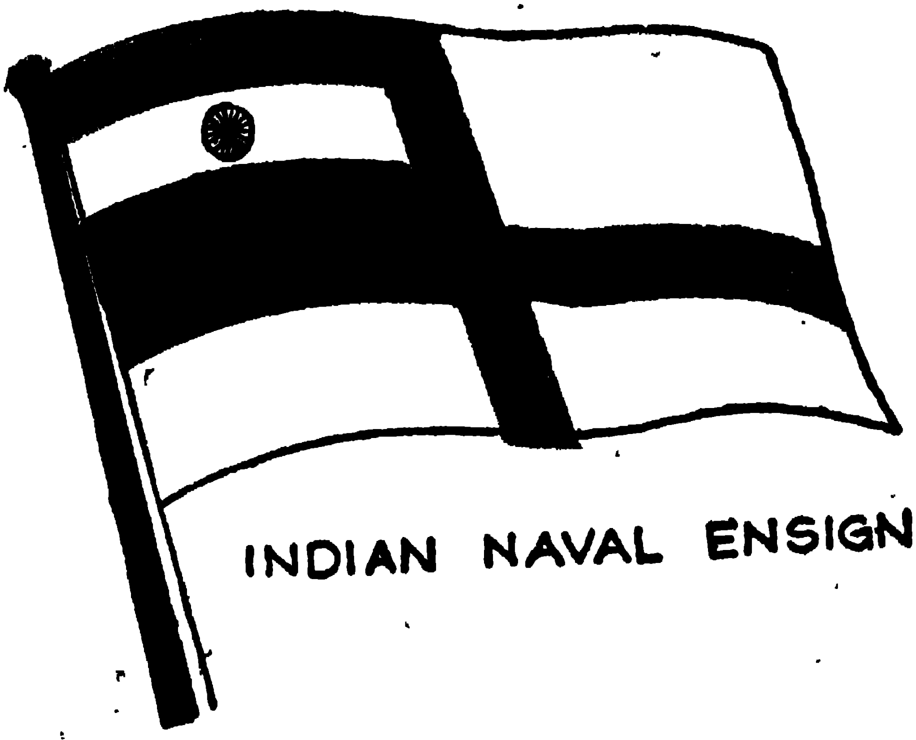

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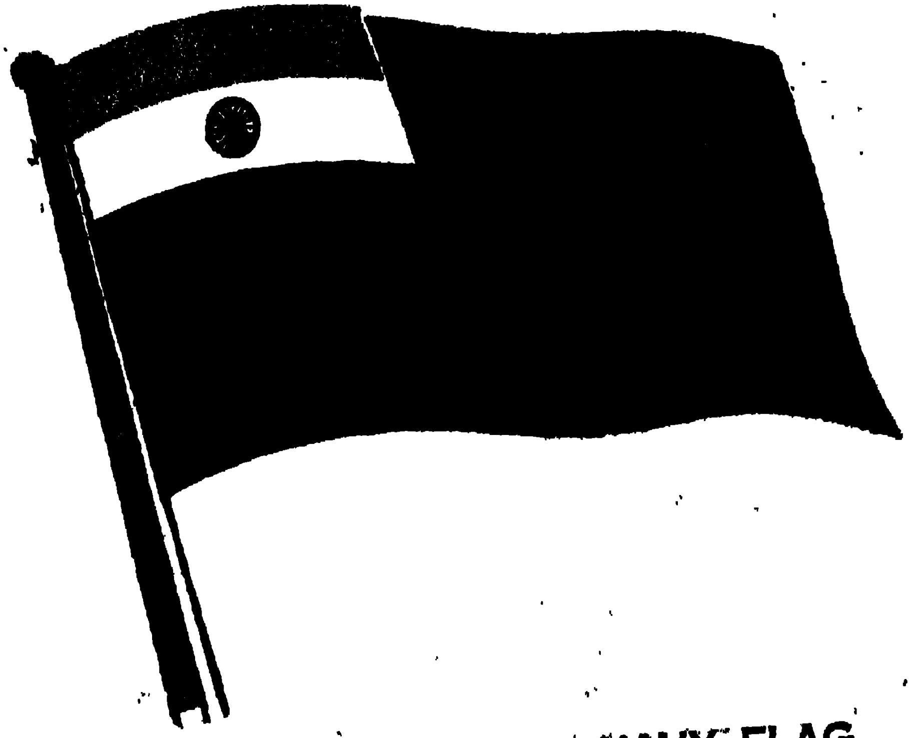

MERCHANT NAVY FLAG

OUR SEAFARING
IN THE
THE INDIAN OCEAN

BY

O. K. NAMBIAR

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OUR SEAFARING IN THE INDIAN OCEAN

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FOR OUR GALLANT SEAFARERS

1. **NAVY DAY—5TH OF DECEMBER**
2. **NAVY WEEK—1ST WEEK OF DECEMBER**
3. **MERCHANT MARINE DAY—5TH APRIL**

ERRATA

Page	*Line*	*Read*	*Page*	*Line*	*Read*
12	5 & 6	Peninsula	53	5	crime
12	9	Pacific	53	15	ships
14	7	Mediterranean	54	6	freight
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SAMUDRA DARSHAN

This book is an introduction to the story of our seafaring in the Indian Ocean and the progress of Indian Shipping since independence. My object in writing this book is to bring the sea around us back again to our national awareness and to show how important it is for our safety and prosperity that the area remains a zone of peace free from big power naval rivalries. The fascinating story of our navigation and exploration in the past has not been fully investigated and told. Even the recent story of our maritime development since India become free is not as widely known as it deserves. This book is a Samudra Darshan—a look at the sea around us and our seafaring.

India has a dominating and central position in the Indian Ocean athwart the principal sealanes between the east and the west. For a country of India's size and length of coastline (5700 kms), cut off from the Asian continent by impassable mountains, we need a much larger fleet of ships than we have been able to build, since we became free.

For several reasons our seafaring was inhibited during British rule. The defence of India was a British responsibility and navigation a British monopoly. The illusion persisted even after the British left. The fact that all the major naval conflicts in r cent history were fought elsewhere and the Indian Ocean was only peripherally affected strengthened the illusion. Our main concerns were peninsular and our national policies were influenced by the land-bound thinking of the politically powerful land-locked components of our republic. Within living memory, our seafaring communities and those who crossed the seas came under a social stigma. Our text books tell us but little about our seafaring. The time has come to take our seas seriously. There has been an encouraging, though inadequate, development in our maritime enterprise in the post-independence period. Even so, the sea has to get back fully into our national consciousness matched by adequate enterprise. Even nations with far less natural and human resources like Japan, Greece and Italy have improved their world-rating in shipping tonnage and carrier trade. India has a great deal more to do, considering our size and importance as a maritime nation.

That recent developments in the Indian Ocean have begun to influence our political thinking is clear from the fact that India, Sri Lanka, Malaysia, Indonesia, Australia, far away New Zealand and a few other littoral states have expressed their concern at possible big power naval rivalry in the area. The recent Anglo-American proposal to develop naval facilities at Diego Garcia has caused alarm among the nations of the region.

In anticipation of resumption of traffic in the Suez Canal, several nations have already taken postures suited to their interests. Iran has a strategically important position as the guardian of the Gulf area, rich in oil. The Iran/Oman agreement for the surveillance of navigation in the Gulf area is significant. France has begun to strengthen Djibuti. Russia, America and China are interested in establishing their influence and safe-guarding their interest in the area. Any possible conflict here will harm the interest of every developing nation of the littoral.

That the Indian Ocean should remain a zone of peace is vital to us, to the developing nations of the littoral and indeed to the world. Our desire for peace in this area arises from the sharp lessons our history has taught us. I have pointed out in the following pages how the foreign control of the sea had proved perilous to us in the past. First the Portuguese, then the Dutch, the French and the English fought for naval supremacy during the 15th, 16th and 17th centuries to back their colonial designs culminating in the British conquest of India. This is the warning of history.

I have outlined here the story of our navigation in the Indian Ocean and focussed attention on some of the major events and the gallantry of our seamen. The revival of our seafaring after its long suppression during British rule and the progress we have made after we became free have been narrated in the latter chapters kindly contributed by well-known experts.

I hope this book serves as a Samudra Darshan for our countrymen, especialy to those who live deep inland and have no direct contact with the sea, and consequently no live interest in what goes on there. I hope this book stimulates our youth to take an increased interest in the sea and seafaring. Bharat Darshan is not complete without our Samudra Darshan.

Bangalore. O. K. NAMBIAR.
4tn April, 1975.

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SEAFARING IN THE INDIAN OCEAN

CHAPTER I

—HISTORICAL PERSPECTIVE

THIS book is an introduction to the Indian Ocean. Our past and present seafaring and some of our current problems and future prospects in this area are briefly narrated in the following pages.

Land masses lie separated on our planet. It is more by water and air that we are globally intercommunicative. Both friendly and treacherous, the sea is an open road for international commerce and goodwill or for invasion by hostile powers. Like the seas, the wide open space of deserts and steppes crossed by ancient caravans too are international highways. The influence of immense land spaces on the destiny of the nations in their outskirts was never so strong and decisive as that of the seas. The sea is more a highway than a frontier. Because there is more sea space than land space on the earth the oceanic world has a more dominant influence on human affairs, more so after the charting of the sea in the age of exploration, and the later introduction of steam ships.

The Indian Ocean was known as the Erythrean sea in classical times, a name originally confined to the Red Sea, and later extended to the Indian Ocean. Perhaps we owe the name Indian Ocean (Bahar-i-Hind) to the Arabs, when they began their memorable voyages and established themselves in the remote corners of the Far East. India's importance as the main entreport to which ships from the West and East made voyages to exchange goods was perhaps another reason why the ocean got this name. It will be remembered that during the middle ages India's famed riches and products fired the imagination of the western world, and the discovery of a passage to India by sea was the constant ambition of its brave voyagers. When Europe began to understand gradually the spherical shape of the earth explorers went to the East and to the West to seek a sea-route to India. No wonder Indian Ocean is the only ocean named after a country, considered the most important on its shores.

This does not, of course, mean India has any exclusive or special claim here other than what International maritime laws allow. We have, however,a responsibility to see that our freedom and rights in this ocean are not inhibited by intimidating presences and activities on its waters. We have also a duty to make the maximum use of everything this ocean has to offer for our good.

Of all the oceans in the world, Indian Ocean is the smallest and the most land- locked ; and it has more islands, large and small. On its shores are nations of diverse races, ancient cultures and dense population. The great civilizations of the ancient world and the arts and commerce of the medieval age flourished along its coasts. Most of the developing countries of our day are spread along its shores in a gigantic arc from Africa to Indonesia. The littoral nations of this large area have an interest and stake in this ocean. The rest of the world too has strong political and economic interests here.

To India, with 5,700 kms. of coastline, this ocean is of vital importance. Shut off from the Asian continent by impassable mountain ranges, and cut off from overland passage both to the east and the west, India has necessarily to depend on the sea outlet. The Indian Ocean is the main traffic route between the developed countries of the west and the under-developed countries of the east. Ninety per cent of our trade is carried on over its waters. A considerable portion of our internal traffic, both passenger and cargo, is sea-borne along the coast. India has a dominating central geographical position in this ocean—an advantage we have hardly begun to use. It has also brought certain responsibilities which we are now begining to realise. Any power which can establish mastery over this ocean is in a position to exercise control over India. During World War II, Japanese war ships were active in the Indian Ocean. Even this limited penetration posed a grave threat to South India. It is not adequately realised that it was the American victory in the battle of far-off Guadalcanal that cut the Japanese line of communication and saved India from a full-scale Japanese invasion.

Sea power was always the deciding factor in colonial history. Even when it was exercised from far off, it has altered the course of history. When the English destroyed the French fleet at the battle of far off Trafalgar in 1805 the destiny of India was decided in favour of the English. In the bitterly contested colonial wars of the 17th and 18th centuries, the English were able to eliminate the Dutch, and next the French from the Indian Ocean because of their superior naval power.

Earlier, in the 16th century, the Portuguese General Alphonso Albuquerque had a grandiose plan for the control of the Indian Ocean. Starting from East Africa and all the way upto Aden and Hormuz in the Persian Gulf and down the Indian coast and on to Tidor farther off, he sought to establish a series of Portuguese forts with naval facilities for an intercontinental control of Indian Ocean. With great exertions he very nearly succeeded in reducing the Indian Ocean to a Portuguese pond. The Zamorins of Calicut and their gallant sailors fought the Portuguese ceaselessly for over a hundred years and upset their designs. It is significant that when the English came on the scene and decided to control the Indian Ocean, they followed the same Portuguese pattern and kept guard over the principal entrances to the ocean at Aden and Singapore.

In the 18th century, Hyder Ali of Mysore, a great military genius, recognised somewhat late the decisive value of a strong navy. "I can beat the English on land every time, but how can I dry up the sea", he said in despair. The English were able to land reinforcement at any point on the coast uncontested and blockade Hyder Ali's military supplies.

Geography of the Indian Ocean

The Indian Ocean is one of the smaller oceans of the world. Comprising only 20 per cent of the ocean-covered area of the earth, it has an area of 28,350,000 square miles.* This figure includes the area of the two adjoining seas—The Red Sea (169,100 square miles) and The Persian Gulf (92,300 square miles). This watery region is bounded in the north by India, Bangla Desh, Pakistan and Iran, in the west by the Arabian Penisula, and Africa, in the east by the Malasian Penisula, the Sunda Islands of Indonesia and Australia, and in the South by Antartica. The arbitrary separation lines which mark off the Indian from the Atlantic in the west and the pacific in the east are at the longitudes of Cape Agulhas (20°E) and at Tasmania (147°E). However, there is no agreement as to the eastern limits of the ocean.

In extent, Indian Ocean is only half the area of the Pacific Ocean. 6500 miles at its widest, the ocean narrows steadily towards the north where it is separated by India and Sri Lanka into the Arabian sea and the Bay of Bengal. Two adjacent seas connect with this ocean, the Red Sea through the Strait of Bab el Mandeb, and the Persian Gulf through the Strait of Hormuz. Several big rivers flow into the ocean, the African Zambezi, the Shat-al-Arab (Euphrates and Tigris), the Indus, the Ganges, the Brahmaputra and the Irrawady, draining a land area half as much again as the total area of Europe. Because of this, and heavy monsoon rains, salinity is low, particularly in the Bay of Bengal.

There are numerous islands, big and small, in this ocean. Sri Lanka is the nearest large island to India. The other groups of islands close to India are the Laccadives and the Maldives to the west, and Andaman Islands and Nicobar Islands to the east in the Bay of Bengal. On the African side, close to the northern tip of Somalia (Cape Guardafiu) lies the Island of Socotra whose Sanskrit name was Sukhadara, the Islands of the Blest. The islands Zanzibar, Amirantes, Seycheles, Agalega, Aldabra, Reunion, Mauritius, the Brandon Group. and the large island Madagascar, six times the size of Sri Lanka, all lie closer to the African continent. 1400 miles due suth of India, below the equator, is the Chagos archipelago which includes the small island of Diego Garcia, much in prominence in recent years. Farther to the east are the Cocos Islands and the Christmas Islands. From the southern tip of Malaysia to the Timor sea there is a long chain of large and small islands stretching from the Indian Ocean to the Pacific. There are more islands in the Indian ocean than in any other ocean.

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* This figure is according to Encyclopeadia Brittanica, Vallaux 16,362,741 and Schott, 30,095,723 square miles. The differences are due to disagreement regarding the eastern and southern limits of the ocean.

The small V-shaped island, Diego Garcia in the Chagos archipelago, is a coral island with hardly any vegetation, populated by a few hundred persons and large colonies of giant crabs, its only industrial potential. The Anglo-American decision to build naval facilities on this island has brought this little known island into prominence. India, along with other littoral nations, fears possible big power rivalries in the Indian Ocean. Tensions in the Indian Ocean would naturally involve littoral nations in disastrous consequences, political and economic.

Meteorological Conditions

Meteorological conditions, particularly the seasonal winds, have an important role in the Indian ocean. From October-November to March-April, north east winds prevail in North latitudes and the North west wind in the southern latitudes. From May-June to September-October, south west winds prevail. Between Socotra and the Maldives, the south west monsoon is violent and dangerous even to steam navigation. Early navigators took advantage of these seasonal winds to regulate their movements. Violent hurricanes sweep the ocean during the change of monsoons, South of the 30 deg. S. Latitude, westerly winds, 'the roaring forties', prevail. In the vicinity of Mauritius tropical storms are a common occurance.

More land-locked than any other ocean, Indian Ocean has a richer distribution of islands and archipelagoes, some of them strategically important. Along its coast, stretching in a huge arc from Africa to Indonesia, lie most of the developing nations of the world with vast populations. As the natural watery highway between the East and West, and an outlet for the rich oil producing countries of the Gulf region, it has great economic importance.

CHAPTER II

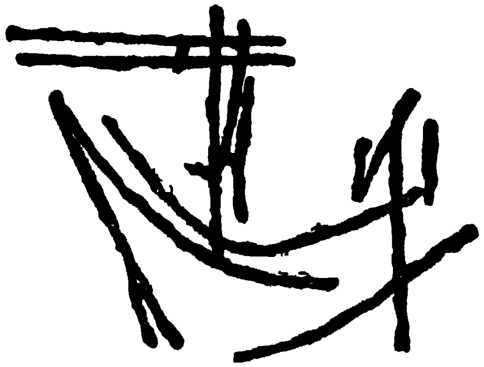
NAVIGATION IN THE INDIAN OCEAN

NAVIGATION in the Indian Ocean can be traced back to the earliest historical period. The great civilizations which flourished on the shores of the Indian ocean, Indian, Babylonian, Mesopotamian and Egyptian had sea-going vessels for trade and exploration. We know little about early navigation in the Atlantic and the Pacific oceans, but we have evidence of considerable maritime activity in the Medittcranian Sea and the Indian Ocean. From such evidence as we have coastal and trans-oceanic navigation appear to have had an earlier start in the Indian Ocean than elsewhere. The long and exciting story of navigation in this area,—a record of steady progress—is briefly given here.

Indian Navigation

Indian navigation of the Indian Ocean began as early as 3,000 B.C. or even earlier. At Mohenjo-daro, Harappa and Lothal, archeologists have unearthed evidence of fairly extensive sea borne trade by Indian merchant-sailors and of ship building.

The Harappans of the Indus valley of Pakistan were a metropolitan people with a highly developed urban civilisation. They lived in well-planned cities and traded with the people of the Euphretes-Tigris valley (modern Iraq). The Harappan seals of steatite and baked clay are now understood to have been the trade marks used by merchants to identify and protect their goods. Haraappan type seals are also discovered in the area of the ancient Sumerian civilization in places such as Ur, Kish and Lagash. Other artifacts have also been discovered which establish close contacts between the two cultures. Cuneform tablets dug up in the site of the ancient city of Ur in Mesopotamia mention cities which once flourished in the Harappan area in Western India. Archeological excavations have revealed a fairly large sized brick-lined dockyard at Lothal, some ten miles from the Gulf of Cambay. A pot sherd discovered at Mohenjo-daro shows a scratched picture of a ship with a mast. Seagoing ships of that civilization had pointed and high prow and stern, single or double mast, square or rectangular sail, rigging, oars and paddles, anchors in the form of heavy stones and shore-sighting birds. The Lothal dockyard was trapezoid in plan, measuring 710' × 124' × 710' × 116' with an embankment height of 15 to 20 feet. A one-mile long and 23 feet wide channel connected the dockyard with the river Bhogavo. The dockyard was worked on the tidal principle using wooden gates. The Indus valley civilization had sea-borne trade relations with Mesopotamia and the Persian Gulf countries. Archeological evidence regarding Indian seafaring in the post-Harappan period (15th century B.C. to the 6th century B.C.) is scanty. From literary references we gather that the Vedic people (circa 2000 B.C.) were acquainted with vessels of different types, some of them having a hundred oars. Sail boats are not mentioned. Perhaps Vedic navigation was largely riverine or easturine or at the most coastal. By the fifth century B.C., Panini refers to vessels which presumably voyaged to oceanic islands. The Ramayana (attributed in its final form to A.D. 200) has several names of vessels and the Hinayana Buddhist scriptures have clear references to sea voyages and the dangers to be met with on the ocean. Buddhist missionaries used merchant ships which regularly plied between India and the Far East, some of them large enough to carry 800 passengers.

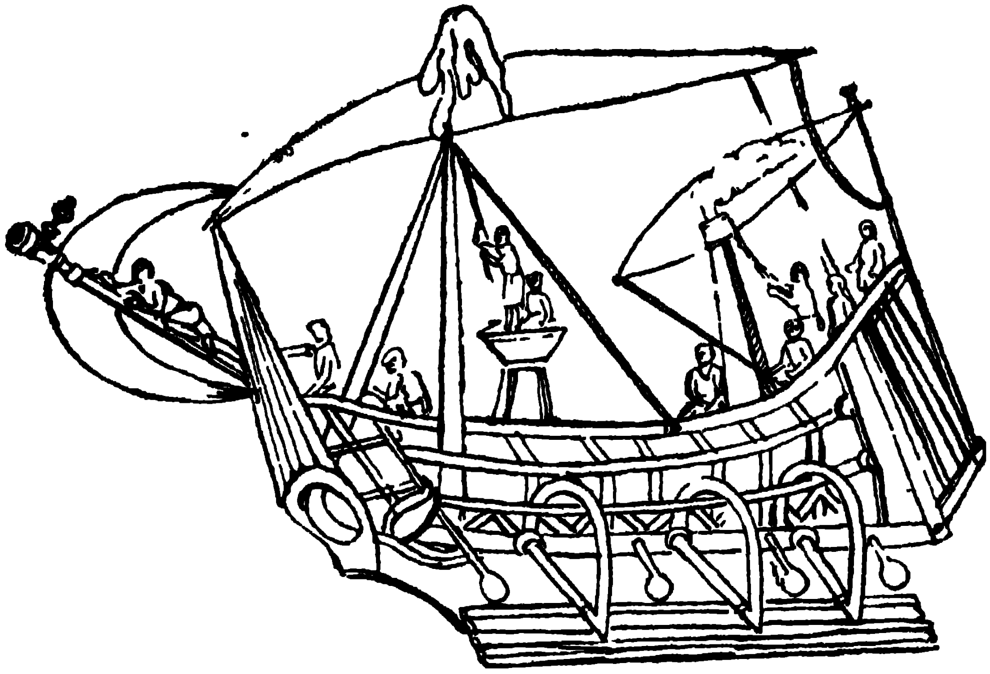


SCRATCHED DRAWING OF A SAILING SHIP MOHENJO-DARO (3000 BC)

The imperial court of Chandragupta Maurya, in 321 B.C., attracted foreign envoys, scholars and traders. Megasthenes, the Greek envoy at the Mauryan court has recorded, among other interesting particulars, that ship-building was an active public-sector industry and that shipwrights were paid out of the public treasury. Dr. Hariharan's penetrating research has also shown that the Mauryan Kings encouraged private ship building industry by giving relief and concessions to private entrepreneurs. Obviously, the Imperial overseas interests could be served only by maintaining steady maritime ties with the for-flung colonies. The Mauryans also established the Office of Superintendent of Shipping called ***navadyaksha***. The state ran regular passenger services and chartered out ships for the use of merchants. The ships, we learn, were manned not only by Indian sailors, but good sailors of other lands were also encouraged to seek service on Mauryan ships, a circumstance encouraged by the influx of skilled Persian refugees to India when the Persian empire broke up in 330 B.C. In the 3rd century B.C., Emperor Asoka's ships sailed from the east coast ports to Sri Lanka carrying a religious mission headed by the emperor's sister, Sanghamithra.

Indian ships voyaged regularly to the Burmese coast and the Malayan peninsula and Indonesia to the east and to Persia and Socotra in the west. An interesting fact generally missed by historians may be noted here. When the Portuguese explored the Maldive Islands, early in the 16th century, they saw ruins of ancient Buddhist shrines built, according to local belief, by an ancient colony of Indians from the mainland, no one knows how long ago.

Even in those early days India built different kinds of vessels for different purposes. Some ships had prows at both ends and a tonnage of "3000 amphorae" which is around 80 tons—evidently an under-estimate. The Andhra ship coins depict ships with two masts with a cross tree at the top. They used long spoon-like rudders. They were the ocean-going ships of those days and voyaged to the Far East regularly. During the period of the Sanchi stupa and the Ajanta caves, the representations of Indian ships



INDIAN SAILORS SAILING TO COLONIZE JAVA
(BOROBUDUR SCULPTURE)

show a further development. The ships are now more strongly timbered and much larger. The landing of Sri Vijaya in Ceylon is the theme of one of the Ajanta murals. Different types of vessels, some carrying horses and elephants, are represented. An ancient Sanskrit treatise on ship building, *Yukti Kalpataru*, describes several types of ships and their uses, and gives detailed instructions for their decoration and furnishing. Not only are the length and breadth and height of those ships prescribed, but even the colour to be used for painting ships is indicated. The four-masted ships were painted white, the three-masted red, the two-masted, yellow, and ships with a single mast, blue. The treatise describes ten different types of vessels, the biggest called Vegini (the speedy) is 260 ft. long, 30 ft. broad and 25 ft. high.

While maintaining overseas trade relations with the western world across what is now called the Arabian sea, India dominated the Bay of Bengal in support of her imperial and colonial interests. Hindu merchants, obtaining charters from their kings, formed trading companies as early as the 1st century A.D. and established settlements in foreign countries from Socotra to the Isthmus of

Kra. Merchant-adventurers of Karnataka called the Nanadesis, "brave men born to wander over many countries since the beginning of Krita Yuga, penetrating regions of the six continents by land and water routes and dealing in horses and elephants, precious stones, perfumes and drugs, either wholesale or retail" are mentioned in an inscription at Baligami, Karnataka State, (Epigraphica Carnatice Vol. VII, P. 118). From such references, it is clear Karnataka region played an important role in overseas trading from the earliest times. Dr. Petrie mentions an Indian colony at Memphis in Egypt. The fact that in a second century farce in Greek language (Oxyrhynchus Papyri) there is a conversation between certain characters in a language identified by scholars as Kannada strengthens the supposition that there was an influential South Indian Karnataka trading colony at Memphis.

One of these corporations which traded with the east is said to have built a Vishnu temple at Pegu. The Manigramam merchants formed a chartered company and secured monopolist rights from their kings. Europe had to wait ten centuries to form similar sailing ventures.

After the Mauryans, the Andhra dynasty with littoral territory on the Bay of Bengal commenced a period of overseas colonisation in Java, and even in some of the Pacific islands. Hindu navigation had reached South China even before the Christian era. From the fifth to the thirteenth century there was regular navigation between India and her colonies in Champa (Thailand), Cambodia, Java, Sumatra and Indonesia, where a Hindu-Buddhist culture developed in consequence.

During this period, South India maintained its supremacy over the seas. Even as early as the 5th century, the Chinese traveller Fa Hien booked his passage home on a South Indian ship. He embarked from an Orissan port and sailed for Sri Lanka. From there, he crossed the Bay of Bengal in a Hindu merchantman to Java calling at Nicobar Island (Nal-Kavaram) on the way. the ship sailed further through the straits of Malacca and reached the Pacific coast. Some of these ships even explored islands in the Pacific.

In the 7th century, King Pulikesin II employed a powerful navy in his wars against the Kalingas. The Pandyas, Cholas and the Cheras also had powerful navies for overseas expeditions and for clearing the sea of pirates.

There can hardly be a doubt that South Indians were the principal navigators of those days, perhaps as a result of geographical compulsion. The Indian overseas empire was largely the result of South Indian exploration and conquest. Apart from numerous references to seafaring in Tamil literature, there are nearly 2000 nautical words in Tamil language—a clear proof of the importance of seafaring to the Tamil people. It is an eqally interesting fact that the idol of Neelatayakshi in the Hindu temple at Nagapattinam is reputed to have come from the Nile Valley. Today, when we watch the fisher-folk of the Coromandal or Konkan Coast venture forth into rough seas in their frail Catamaran and boats we can imagine how their ancestors made themselves masters of the sea.

A word about Sri Vijaya's overseas empire will be in place here. Controlling the straits of Malacca, this famous emperor, extended his authority over Malaya, Sumatra and Java and warred against Champa and Anam. The Sri Vijaya supremacy over the Indian Ocean was challenged by the Chola emperor Rajendra. The Cholas fought a ruinous hundred years naval war, (1007 A.D. to 1110 A.D.) and were finally compelled to withdraw when they, in their turn, were attacked by their neighbours. With the weakening of Sri Vijaya and Chola sea power, Hindu navigation in the Indian ocean diminished and Arab navigation began to flourish in waters made safe from pirates by the police vessels of Hindu kings. The Chinese junks also continued to sail to India. The Arabs slowly possessed themselves of our overseas trade, found favour with Hindu kings and slowly eliminated the Chinese from direct trade with India so that when Vasco da Gama sailed into these waters in 1498 the Arabs were the principal foreign traders along our coasts.

Indian ships are found represented in the Borobudur sculptures in Java. These were ships of the 7th or 8th century A.D.

and show improved ship-designing and construction. Top-heavy ships with strongly ribbed hulk are found provided with outriggers for safety. The Borobudur ships were 60 feet long and 15 feet wide. By the time Marco Polo sailed in Indian waters in the 13th century, Indian ships were further improved, double-planked, caulked within and without, and finally fastened with iron nails. They used a viscous waterproof composition to stop leaks. There were large ships with a crew of 300, capable of carrying upto 6000 baskets of pepper, propelled by oar, four men to each oar. Every ship carried small lifeboats. The cabins were below the deck. The holds were protected by thick water-proofed planks. There were large ships, some with five sails and five masts. The prows were decorated with fanciful forms, ships had cabins of different sizes placed at the prow or amidships. The construction of combat ship is also mentioned.

There were risks in navigation of which ancient Indian literature, the Jatakas and Divyavadhana have given us vivid descriptions. Storms, whales and hidden rocks were some of the dangers the sailors had to face. When a ship was wrecked, the sailors threw themselves at the mercy of the waves after consuming large quantities of a mixture of ghee and sugar which sustained them for a long time. They also smeared their body with some kind of oil to protect themselves from the injurious effects of salt-water and the weather, and perhaps from sharks.

I have sketched South Indian navigation separately in the final section of this chapter. In the meanwhile let us take a look at some of the ancient nations of the Indian Ocean littoral and their navigation.

Egyptian Navigation

Egyptian navigation was confined to the Mediterranean in the earliest period of recorded history. We learn from a hieroglyphic that Pharaoh Snofru (2600 B.C.) sent a fleet of 40 ships to Byblos in Phoenicia (Lebanon) to fetch cedar wood and copper and to the Red Sea for myrrh. Pharoah Sahure of the 5th dynasty (2500 B.C.) despatched a large fleet to Punt, the fabled

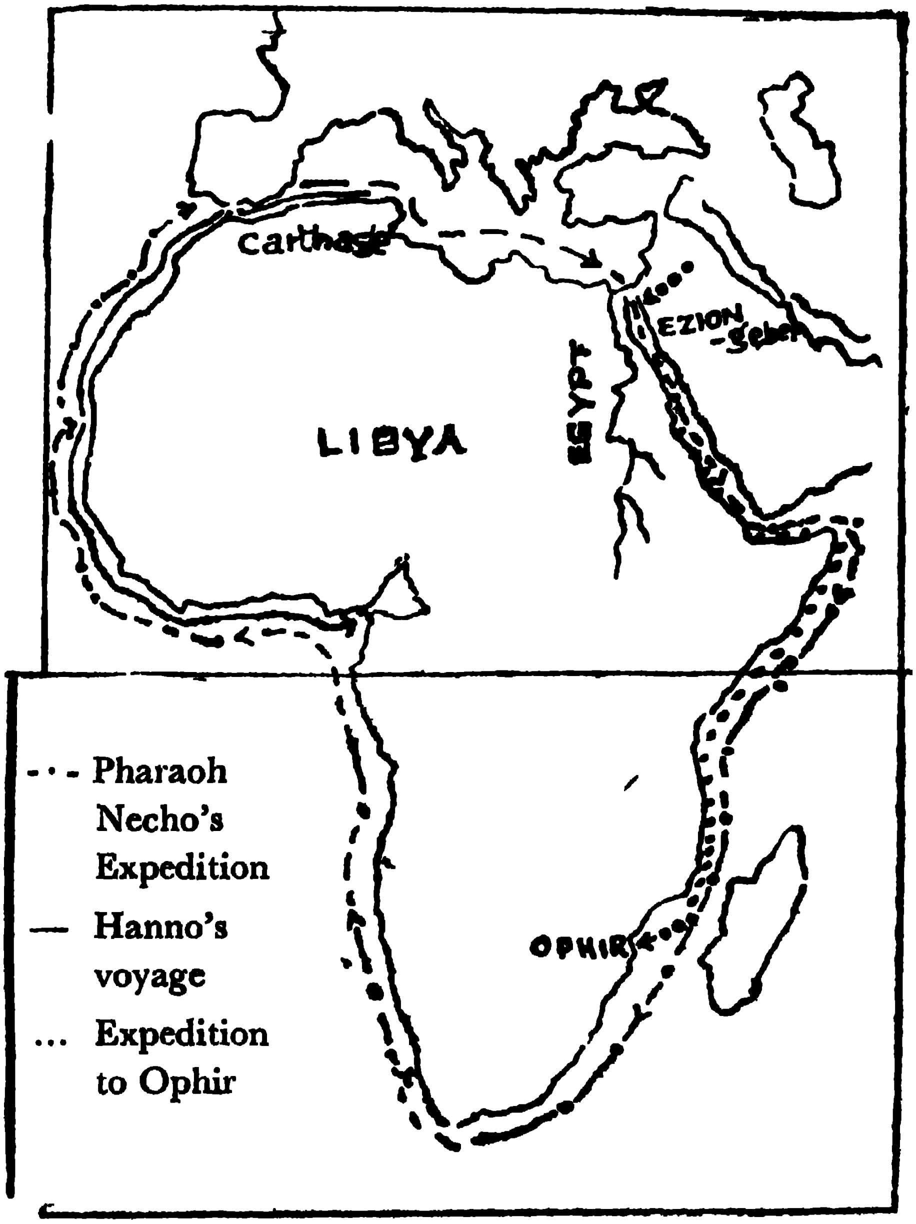
" Land of the Gods where spices and gold came from ". He had, however, no clear idea where Punt was except that it lay far south on the Indian Ocean coast of Africa. The fleet returned after a successful voyage laden with " 80,000 measures of myrrh, 6,000 weights of electrum (an alloy of silver and gold) and 2,600 logs of costly wood ". According to an inscription on the tomb of Khnemhotep, the steerman on one of the vessels, he and his captain Chui made eleven profitable journeys to that distant land—a fact sufficiently important for memorial mention.

It is difficult to locate the land of Punt. Ancient Egyptians needed large quantities of myrrh for use in their temples, and Punt, the land where the myrrh trees grew, was the goal of their early expeditions. It is now believed that Punt was an inland kingdom somewhere between Somaliland and the river Zambezi. The Egyptians were, therefore, among the earliest people to undertake regular navigation in the Indian Ocean. We have already noticed that the people of ancient Sumer (Mesopotamia) and Mohenjo Daro (Indus Valley) made regular voyages on the Indian Ocean linking the two great river valley cultures several hundred years earlier.

Egyptian traffic in the Indian Ocean must have been quite considerable or important. For in 1980 B.C., Pharoah Sesostris found it necessary to have a canal dug connecting the eastern most estuary of the Nile to the Red Sea so that ships could sail directly from Memphis to the Red Sea and on to the Indian Ocean to avoid expensive caravan transportation. After this, internal disorders and wars interrupted Egyptian navigation for nearly 300 years. When Queen Hatshepsut ruled Egypt (1501-1480 B.C.) she cleared the Canal and revived Eygypt's neglected seafaring in the Indian Ocean.

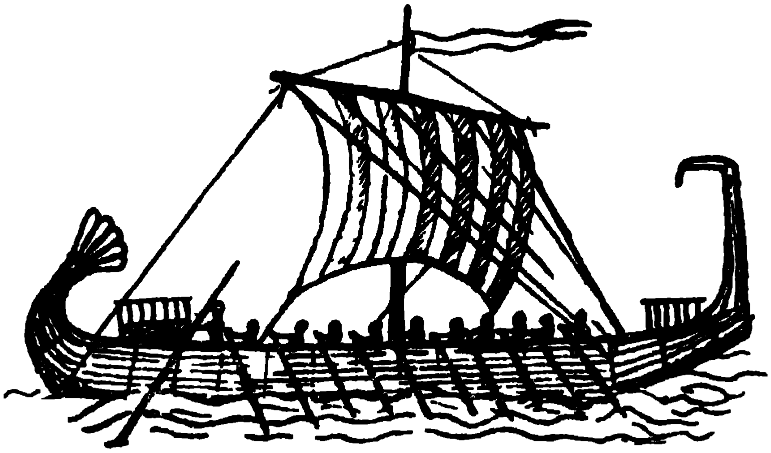
The queen built a great temple to her God Amon Ra and surrounded it with a terrace garden planted with rare trees. As Amon Ra was specially fond of myrrh, the queen decided to bring myrrh trees from wherever they grew. The passage to Punt was then only a faded memory. The queen had to fit out a fresh expedition. Using the old Sesostris' canal, the fleet entered the

Indian Ocean, sailed south along the African Coast, reached Punt and brought back a large number of trees and other rich and strange cargo—'pure gold from Amu, ivory, Ahem incense, sacred gum and dog-headed monkeys.' The queen was overjoyed. The myrrh trees were planted in the temple garden and the event was commemorated in text and pictures on the temple walls—a vivid colour documentary of the land, life and adventure of those remote days.



Pharaoh Necho's expedition. Hanno's voyage;
The start and finish of the Expedition to Ophir.

The people of the island of Crete in the Mediterranean were by necessity seafaring, and appear to have been active in East Mediterranean till about 1490 B.C., when the Myceneans defeated the Cretans and took over their ships. Under king Minos, Crete was the first nation to build a navy meant for the protection of their trade which lasted for nearly 600 years. We know precious little about the Cretans and since they had almost nothing to do with the Indian Ocean, they are mentioned here only to fill in the picture of ancient navigation.

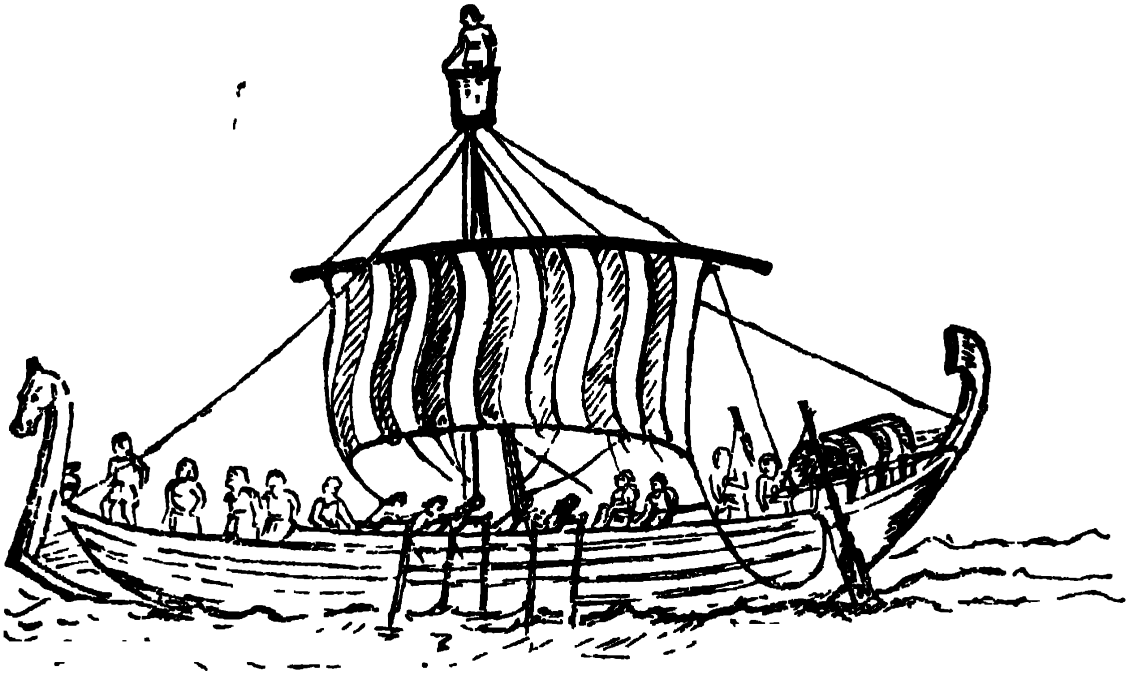


EGYPTIAN SHIP (2600 B.C.)

The Phoenecians

Among the greatest seafaring people of antiquity, the Phoenecians, originally a pastoral people on the Lebenon coast pushed into the sea by conquering inland tribes, have some remarkable voyages to their credit. Principaly traders, they built the great mercantile cities of Tyre and Sidon. King Solomon, it will be recalled, had close relations with Hiram, King of Tyre who supplied material and workmen for the building of his great Temple, (969-936 B.C.). Hiram's ships went as far as the land of Ophir, 'the land of Gold', now ascertained to be Yufi, 250 miles inland, west of Sofala on the Indian Ocean coast, or according to others, in the vicinity of the Zimbawe ruins. There is no doubt that the Phonecians made regular voyages in the Indian Ocean, sailing southward along the African coast or to the East to Babylon and farther. The greatest feat of the Phoenecian sailors was the first and the most daring circumnavigation of the African continent in the 6th century B.C. Heredotus, the father of history, writing in 5th century B.C. made a brief reference to it.

> " King Necho sent Phoenecians with ships along the canal which goes through from the Nile to the Arabian Gulf bidding them sail and come back to Egypt.
>
> The Phoenecians, therefore, set forth from the Erythrean sea (Indian Ocean) and sailed through the southern sea ; and when autumn came they would put to shore and sow the land wherever in Libya they might happen to be as they sailed, and then they waited for the harvest and having reaped the corn they would sail on, so that after two years had elapsed, in the third year, they turned through the Pillars of Hercules (Gibralter) and arrived again in Egypt."



PHOENECIAN SHIP (6TH CENTURY B.C.)

When we consider how, 2000 years later, with better ships and instruments, several successive Portuguese expeditions, sailng in the reverse direction took over a century to reach the southern cape of Africa, this Phoenecian circumnavigation stands as one of the major feats in maritime history. Another Carthegenian sailor, Hanno, made a voyage as far as the Gulf of Guinea (West Africa) in 525 B.C. He had a fleet of 60 ships, each of 50 oars. The details of this remarkable voyage accomplished in a summer season can be found in Codex Heidelbergensis 398. At the same time, another Carthegenian sailor Himilco sailed north and reached England and brought a cargo of tin from Cornwall.

The chief commodities of Phoenecian trade were cedar wood, copper and a dark red cloth for which they were famous. The western world owes their alphabet to them.

When the Greeks came to power in the Aegean Sea the Phoenecians were forced to abandon their east Mediterranean trade and move westward. Greek navigation in the Indian Ocean however began only after the Greek encounter with the Persians.

The Persian and the Greeks

When Cyrus, King of Persia, conquered Babylon in the middle of the 6th century B.C., he took over the immemorial navigation of the conquered people. During the reigns of his successors, Cambysus and Darius, the Persian empire was enlarged by vigorous campaigns helped by a powerful navy manned by sailors drawn from all seafaring nations of the ancient world. Darius invaded India and Scythia and being thwarted, turned his attention to the west and proceeded against Greece. The huge Persian army was defeated at the celebrated battle of Marathon by a band of determined Greeks. Darius' son, Xerxes continued the war against Greece but he too was defeated at a great naval battle fought at Salamis. The Greeks crippled the naval power of the Persians and the Persian empire collapsed soon after.

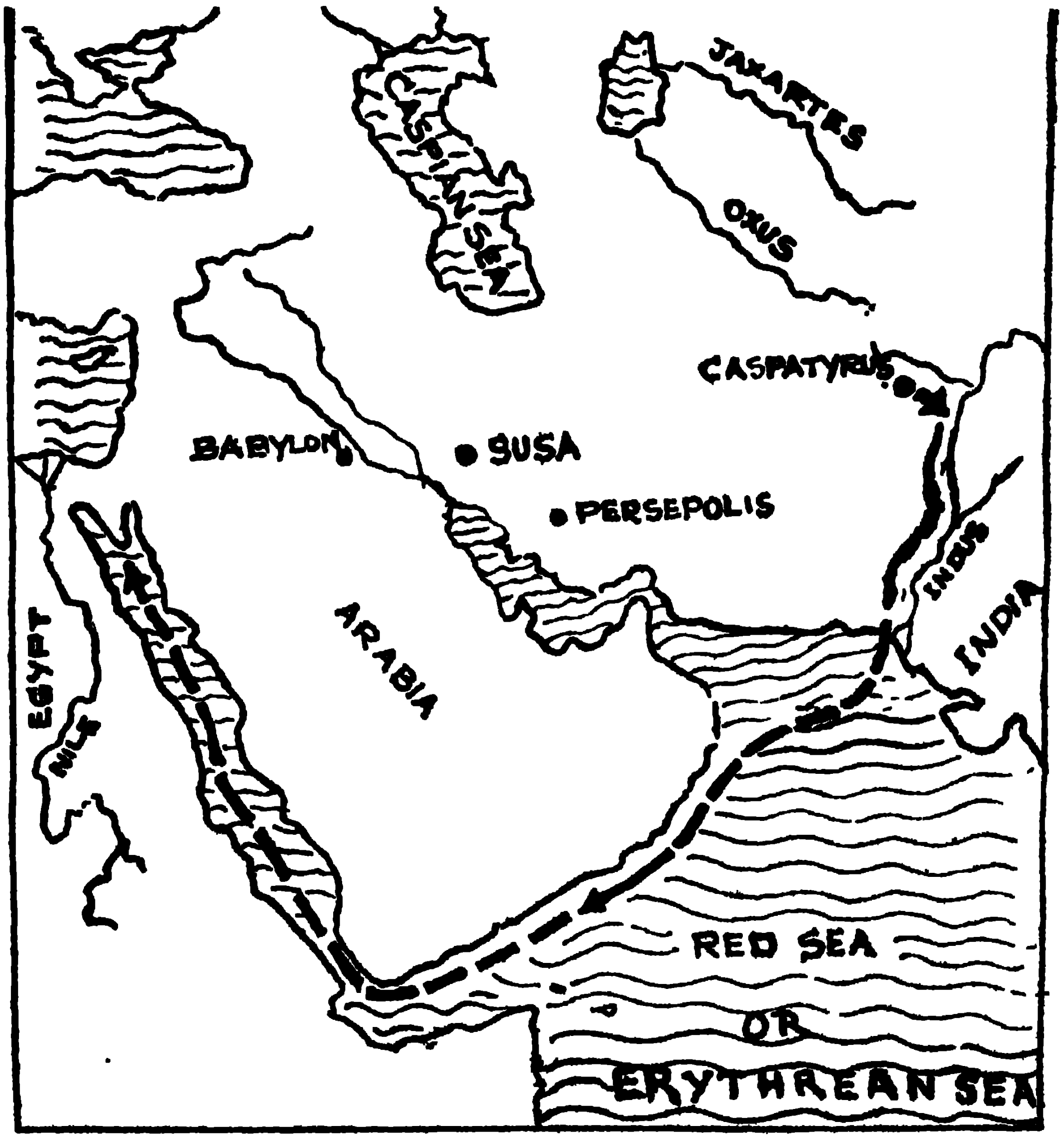
Before Darius marched against India, he had ordered Scylax, a Greek naval commander in his service, to explore the mouths of the river Indus and investigate the coastline from that river to the Persian Gulf and the Red Sea. At that time (518 B.C.) Darius appears to have been in possession of the upper reaches of the river

Indus, for Scylax, assembling a fleet far up the river Indus, sailed unchallenged down the river and out at its mouth into the open sea. After reaching the Indian Ocean, he sailed west to the Red Sea and arrived at the point where old Pharoah Sesostris' canal commenced. King Darius had cleared and repaired the old canal after centuries of neglect, and it was along this waterway that his ships had sailed to get into the Mediterranean. Darius set up monuments on the banks of the canal and inscribed on them rather pompous and wholly untrue inscriptions claiming that he was the real builder of the canal meant "for ships to sail all the way from Egypt to Persia according to my wishes ".

The exploration of Commander Scylax brought useful information for navigation in the Indian Ocean. Even in the days of Herodotus, western notions of the Indian Ocean and the lands lying to the east were vague. This is what the great historian has to say:

> "The Persians inhabit Asia extending to the South sea which is called the Erythrean Sea (i.e., The Red Sea). The Indian Ocean was described as the 'Red' sea during the entire classical period and it was only in the middle ages that the name was confined to the Red sea proper. The land of the Persians stretches along the Erythrean sea....and next after it Assyria, and next Arabia and this ends at the Arabian Gulf, (The Red Sea).... And Asia is inhabited as far as the Indian land; but from this onwards towards the east it becomes desert, nor can anyone say what manner of land it is".

In 334, Alexander the Great marched out to punish the Persians who had warred against Greece for nearly two centuries. In what may be described as the blitz krieg of classical times, he made himself master of Asia Minor, Phoenecia and Egypt, and in a brilliant offensive dealt the death blow to the Persian army led by Darius near the river Tigris. Proceeding, he crossed the Indus and Jhelum, fought several minor and major battles in India and conquered the Indus Valley. But when he reached the banks to the Hyphasis, his soldiers, cold to his oratory and exhortations, and highly skeptical about his geography based on the Aristotelean world picture, refused to go forward. Alexander had a notion that beyond India lay a sea which encircled the world, and that sailing north along the Asian coast he would be able to reach the Mediterranean and his home. So the world conqueror had to return, much against his wishes. He built a large fleet of warships and transport vessels. Nearchus, the commander of the fleet, was ordered to sail



SCYLAX'S VOYAGE (512 B.C.)

down the Indus and explore its estuary and investigate the coast line and the sea route to the Red Sea. He decided to take his main army back by the land route.

Nearchus did not have smooth sailing. He took 130 days to reach the mouth of the Euphrates only 31 days of which were spent at sea. Another of Alexander's fleet commanders, Onesicritus sailed south and returned with a fairly faithful report of Sri Lanka, the *Taprabane* of classical times.

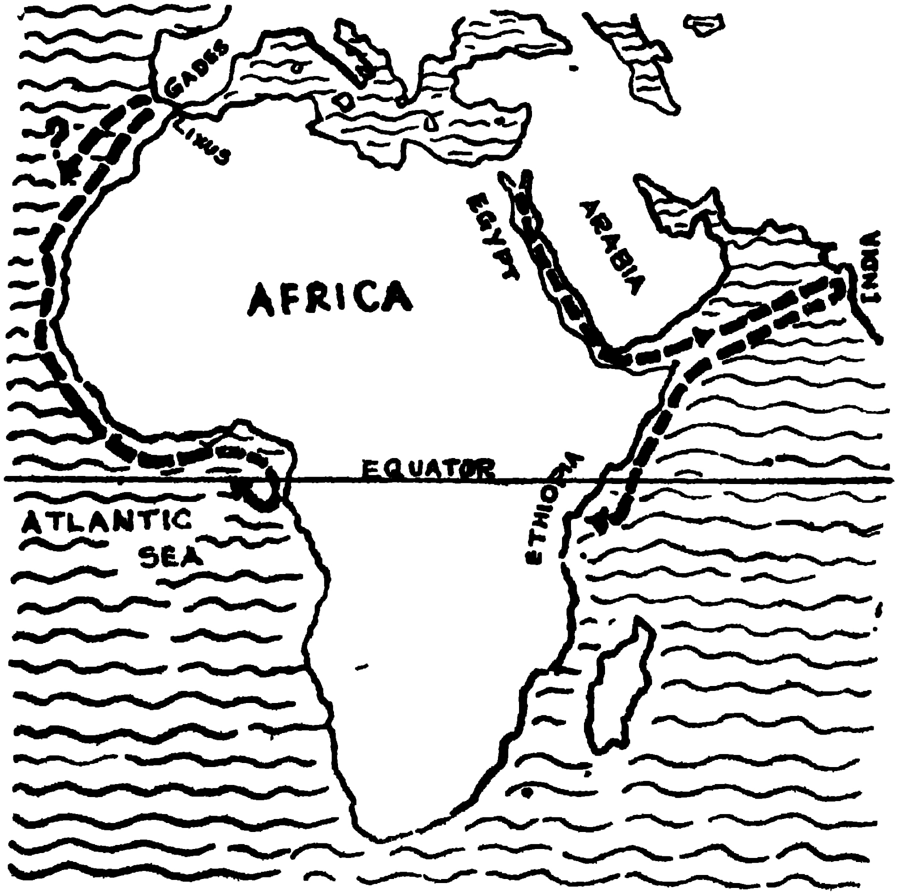
The political consequences of Alexander's campain were not significant or lasting, at any rate for India. But its cultural impact on the then known world cannot be overestimated. Astronomers, philosophers, geographers and historians had accompanied Alexander. They exchanged ideas with the wise men of the conquered lands and recorded their experiences and discoveries resulting in the earliest East-West cultural synthesis in history. Europe and Asia exchanged their products along the new trade-routes and in the new cities founded by Alexander a cosmopolitan culture developed. Europe, because of Alexander, became conscious of the reality of India's existence. Writing in 300 B.C., the Greek ambassador, Magasthenes, gave an account of the geography of India and a picture of the life and the times. After Alexander, Selucus Nicator and the Ptolemies — the later Greek rulers of Egypt — sent out several expeditions to explore the Indian Ocean. Ptolemian ships regularly visited the island of Dioscordius (Socotra) and Eudamian (Aden) to buy Indian goods brought there by Arab intermediaries and Indian and Sinhalese merchant sailors.

Hippalus and after

The seasonal regularity of the monsoons made trans-oceanic voyages possible on the Indian ocean earlier than elsewhere. The credit for discovering and using the monsoon winds for regular navigation goes to Indian navigators and not to the Greek sailor Hippalus, as claimed by the later European writers. Among the people who sailed with this natural help were the Indians, Greeks, Romans and the Arabs, in that order. Hippalus, a Greek sailor (1st century A. D.) is said to have boldly stood out to sea from

Cape Fertak in Arabia and sailing with the South west monsoon (Arabic : Mausam), reached India in less than four weeks and with far less labour. Let us consult Strabo, the Roman geographer for the true facts :

> "Eudoxus of Cyzicus came to Egypt in the reign of Lueregetes (146-117 B.C.) and he became associated with the king and his ministers, and particularly in connection with the voyages up the Nile......Now it happened, that a certain Indian was brought to the king by the coast-guards of the recess of the Arabian Gulf (Red Sea) who said that they had found him half-dead and alone on a stranded ship. The king gave the Indian into the charge of men who would teach him Greek, and



EUDOXUS' VOYAGES (110 B.C.)

> when the Indian had learnt Greek, he related that on his voyage from India he, by a strange mischance, mistook his course and reached Egypt in safety, but only after having lost all his companions by starvation, and when his story was doubted, he promised to act as a guide on the trip to India for the men who had been selected by the king, and of this party Eudoxus was a member so Eudoxus sailed away with presents and returned with a cargo of perfumes and precious stones"

Hippalus was a pilot who accompanied Eudoxes on his voyage to India. The route the Indian pilot showed them in gratitude was the monsoon route, which Hindu ships and Arab ships have always used and continue to use even to this day.

During the centuries immediately following Christ, Indian sailors appear to have paid less attention to the Arabian sea (except for coastal traffic) and more to the countries of the Far East. The author of Periplus Maris Erythreai, (The Circumnavigation of the Erythrean Sea— the old name for the Indian Ocean) states:

> "The inhabitants of the Coromandal coast traded in their own vessels with those of Malabar and Barygaze (in Gujarat) and foreign ships visited the big coastal marts for merchandise. To these ports came vessels from China."

Perhaps India did not need to send her ships to the west, for there was little to be got from there and what we needed was brought by the Arabs. India had much to give. Western ships were there in large numbers in her ports come to buy Indian goods. Perhaps it was a period of temporary inihibition of our seafaring.

Maritime activity increased in the Indian Ocean after Hippalus, and ships regularly visited Indian and Sinhalese ports for Indian products. Indian voyages to the west became unnecessary. There was much the Far East had to offer to India, silks, sugar, porcelain and a variety of art products for which there was an insatiable demand in India. Besides, Indian cultural and political influence had spread to those areas through conquest and colonisation. The overseas empire of the Hindus lay in that region. It is no wonder then that Indian ships sailed in that direction rather than to the west.

Strabo confirms this view. He tells us that after Egypt became a Roman province in 31 B.C., there was a great increase in Roman trade with India. Where formerly hardly 30 ships sailed to India every year, ***large fleets of hundreds of vessels were sent out for Indian cargoes as far as the Coromandal coast.*** From Bab el Mandeb the monsoon wafted their ships to the Port of Muzuris in Malabar or Barygaza (Broach in Gujarat) in less than two or three weeks. Roman and Egyptian gold flowed into India. It could not have been entirely a one-way traffic. A few Indian ships continued to visit the ports of Arabia and Egypt. In 20 B.C. an Indian embassy visited the Emperor Augustus at Samos with rich gifts which included a tiger. A delegation from Ceylon visited Emperor Nero in 50 A.D. When Jerusalem was destroyed by the Romans, Jewish refugees came to Malabar and received a friendly and privileged welcome. By 90 A.D. sea traffic to India had grown to such a volume that a Greek sailor wrote a manual on navigation in the Indian Ocean. His ***Periplus Maris Erithraei*** (Navigation of the Red Sea, i.e., Indian Ocean) was much in use among sailors bound for India.

While the Indian Ocean was bustling with activity, the Atlantic continued to remain a sea of unknown dangers. As late as the 11th century Al Biruni, the great Arab astronomer and geographer, warned:

> "No seafaring is done on this (Atlantic) Ocean for the air is dark, the water is thick, the navigable channels in confusion, and here there are many ways of losing oneself. This is the reason why people before us set up signs in this sea as a warning."

In spite of its imagined perils, a few brave sailors had made notable voyages along its coast to the far north even as early as

525 B.C. Himilco, a Phoenecian had, journeyed hugging the coast to Cornwall in Britain for tin. About the same time, Hanno another brave explorer of Carthage, voyaged down the west coast of Africa to the Gulf of Guinea and returned safely within a few months, a navigational feat which took the Portuguese in the 15th century and their greatly improved ships, nearly 60 years of successive explorations to accomplish.

Cosmas

At the beginning of the 6th century A.D., Cosmas, a merchant traveller who appears to have journeyed over a considerable part of the then known world claimed to have voyaged to India and Ceylon. He was proud of his visit to India and gave himself the honorific of Indicopleustes, i.e., the India-sailor, which reminds us of the proud caste of "England-returned" men of the days of British rule. To have returned from India was a matter for high compliment which shows how important India was in the ancient world. His description of India and Ceylon seems reliable. He writes:

> "Beyond Tzinitza (China) there is no seafaring and no land of human inhabitation....In the island of Ceylon there is a Christian Church with priests and believers—as on the coast of Male (Malabar) where pepper also grows, and in a place called Callina*. There is even a Bishop there ordained in Persia. The same is also true of the island of Dioscorides (Socotra) in the Indian Sea....Since the island of Ceylon does in fact lie in a central position, it is visited by ships from all parts of India, Persia and Ethiopia, and, in the same manner sends out many ships of its own. Ceylon obtains silk,

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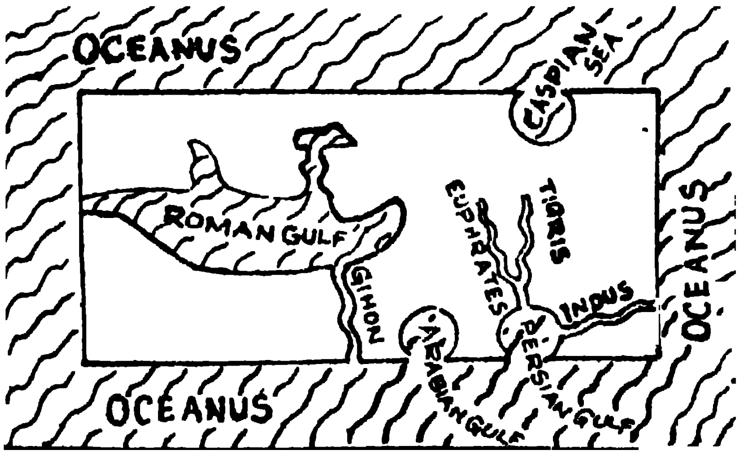
* Could Cosmas' Calliana be modern Kalyan? Several great ports of ancient days have later lost their importance. Their very names are forgotten. The celebrated ancient South Indian port of Tundis, wrongly identified by W Logan (*A Manual of Malabar*) as Kadalundi (Kadal Tundi) is now found to be an obscure coastal village Tundi in South Travancore according to information received from an officer of the Indian Survey Department.

aloes, cloves, sandalwood and other products from the most distant lands such as Tzinitza and other places of trade. These goods are then transported to trading stations on our side and to Calliana which produces copper, sesame and material which is used for making clothes....and on to Sindu (at the north of the Indus) where musk and lavendar oil etc., are made, to Persia, to the land of the Homerites (Yemen) and to Adulis (Zula on the Red Sea) ".

Cosmos Indicopleustes' geography was the Christian world picture of his days,—a box like structure resting on a rectangular base, the tabernacle concept ", conforming to the revelation Moses received on Mount Sinai,—a concept, like several others, based on a misunderstanding of the Biblical text. Cosmas did travel to India, and his description is true. The Christians whom he saw in Malabar were the St. Thomas Christians whom St. Thomas, the Apostle, converted to the Christian faith in the first century A.D.



OUTLINE SKETCH OF COSMAS INDICOPLEUSTES' MAP (9TH CENTURY A.D.) a rectangular land mass set in a rectangular Ocean.

Chinese Navigation

Though China belongs to the Pacific Ocean, Chinese navigation is known to have penetrated into the Indian Ocean during the rule of the Han dynasty, when a Chinese ambassador came by sea to the Pallava capital of Kanchipuram South India. We have no records of any earlier Chinese navigation. From the first century B.C. to the 13th century, Chinese navigation appears to have been confined to the South China Sea and the Pacific. During the Southern Sung period, (12th and 13th centuries) Chinese ships sailed as far as India and farther west. In the 14th century, in the reign of the great Kublai Khan, the renowned European Traveller, Marco Polo, sailed from China to Persia in a Chinese vessel and wrote a fascinating account of his voyage. Kublai Khan is known to have sent a powerful fleet against Annam, Korea and Japan. According to Marco Polo, some of the Chinese ships were large enough to carry a thousand passengers besides the ship's crew and large quantities of merchandise.

The peak period of Chinese navigation in the Indian Ocean appears to have been between 1200 and 1433 A.D. It was a period of militant Chinese imperialism and colonialism. During the rule of the Mings, seven successive large-scale naval expeditions set out from China to conquer the Far East and dominate the Indian Ocean. The first of these expeditions under Admiral Cheng-Ho proceeded to Java, Ceylon and Calicut. The object was trade backed by a formidable fleet of 63 giant junks carrying 28,000 soldiers.

The 'traders' intimidated every port of call, and got everything they wanted. The expedition proved so profitable that six further expeditions followed in quick succession. The Chinese must have had considerable naval expertise and a tradition of seafaring to have undertaken such massive operations across the seas. The third of these expeditions (1409-1411) comprising 30,000 men abandoned its trade objective altogether. Visiting Ceylon, the Chinese spread terror among the inhabitants and took the king of Ceylon and his court prisoners to China. This act of naked aggression could not have resulted from any political disputes considering the enormous distance separating the two countries. It is not known what happened to the unforunate Ceylonese king and his courtiers. On the west coast, of India, Calicut was the next target of Chinese attack. They appear to have established themselves in the ports of the west coast in considerable strength. Even to this day we have place names at Calicut, Cochin and Quilon (*Cheena parambu*, *Cheena kotta*, *Cheenakulam*, etc.) which imply that Chinese colonies once lived there. From these Chinese colonies or outposts they had sailed across the Arabian sea to Ormuz (Persia), Aden and even to the East Coast of Africa. By the middle of the 15th century, the Chinese had established themselves in as many as thirty ports along the Indian Ocean littoral and in some of the islands, notably Nicobar. According to Toussaint, the historian, wherever the Chinese sailors went, the people were ready to grant them whatever they demanded, for Chinese trade was backed by Chinese arms. It is for this very reason that the Chinese soon after lost their trade and navigation, for by 1455, local population rose in revolt against these Chinese colonies. The Arabs who were now strong in the Indian Ocean played an important part in the ouster of the Chinese.

The Hindus and the Chinese began their navigation of the Indian Ocean more or less at the same time. The two imperial powers were bound to clash along the frontiers of their colonial empires. This happened in Funam where a Hindu King had established a flourishing overseas kingdom. To a certain extent Hindu presence and influence extending from Sumatra to Thailand put a restraint on Chinese expansionism. The Hindu kingdoms controlled the sea-routes from the Far East to the Bay of Bengal, and had logistic and strategic advantages. Perhaps, this may be one of the reasons why Admiral Cheng-Ho had need of massive sea-power to effect an entry into the Bay.

Arab navigators who were active during this period had established themselves along the East African coast and sailed with seasonal regularity to Indian ports. Great carriers of commerce and culture, Arab sailors confined themselves in the initial stages strictly to trade and as it were, bridged the east and the west. The period of the Moslem conquest of the East had not yet begun. By 671 A.D. the Arabs had reached far away Canton, a remarkable navigational feat when we consider the inferiority of the Arabs in ship-building and navigational aids compared to the Hindus and the Chinese.

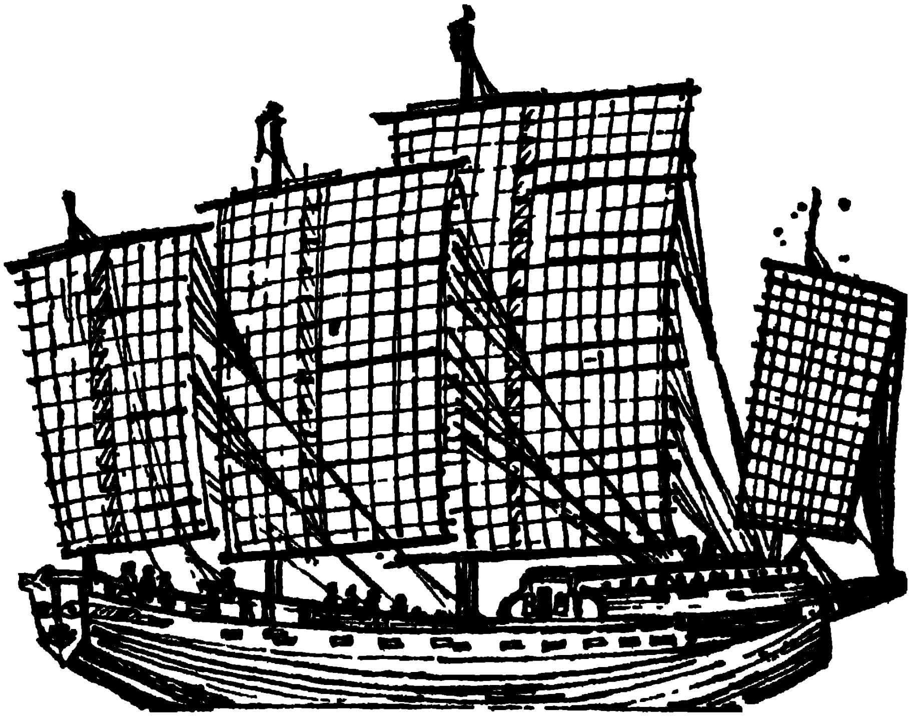
Later the Arabs spread their influence in the areas they visited by taking sides in the quarrels of the kings and chieftains of the countries where they had trading posts. Several centuries later exactly the same pattern was followed by the Europeans when they combined trade and politics to build their great empires. Even today, the same pattern of political intervention can be seen in a variety of ideological and economic disguises.

Indian kings found Arab presence in Indian waters an effective counter balance to the menace of the Chinese fleet in the roads. In a similar manner, in later centuries, the presence of the Dutch served to counteract Portuguese naval threat. Indian princes and merchants felt less intimidated in their mercantile negotiations.

There were always big power presences in the Indian Ocean and consequent dangers to the area. In the centuries (16th, 17th and 18th), following European advent, when India was weak through internal strife, our enslavement was postponed so long as there were strong rival naval presences in the sea around us. When the Purtuguese, the Dutch and the French naval presences were withdrawn leaving the English in absolute control of the Indian Ocean, the real British conquest of India began.

In the middle of the 15th century the Chinese withdrew from the Indian Ocean and confined their navigation to the Pacific largely as a result of violent Arab rivalry. The Chinese colony at Calicut was set upon and destroyed by the Arabs and the local people. Similar action probably took place all along the route. After the fall of the great overseas Hindu empires, the sea-lanes from China to India, especially from South China Sea to the Malasian area, were infested by pirates who made mercantile navigation both dangerous and unprofitable.

The record of Chinese navigation is by no means inferior to that of the Hindus or the Arabs though the Chinese were not good colonisers. Among the reasons why the Chinese were able to make long voyages is their early invention and use of the magnetic compass. The Chinese junks were enormous vessels built on sound scientific principles for stability and strength, and navigable in shallow waters. Their sails and riggings were less crowded and complicated and more easily handled. They had, besides, nautical aids and charts, far in advance of those used by the other seafaring nations.

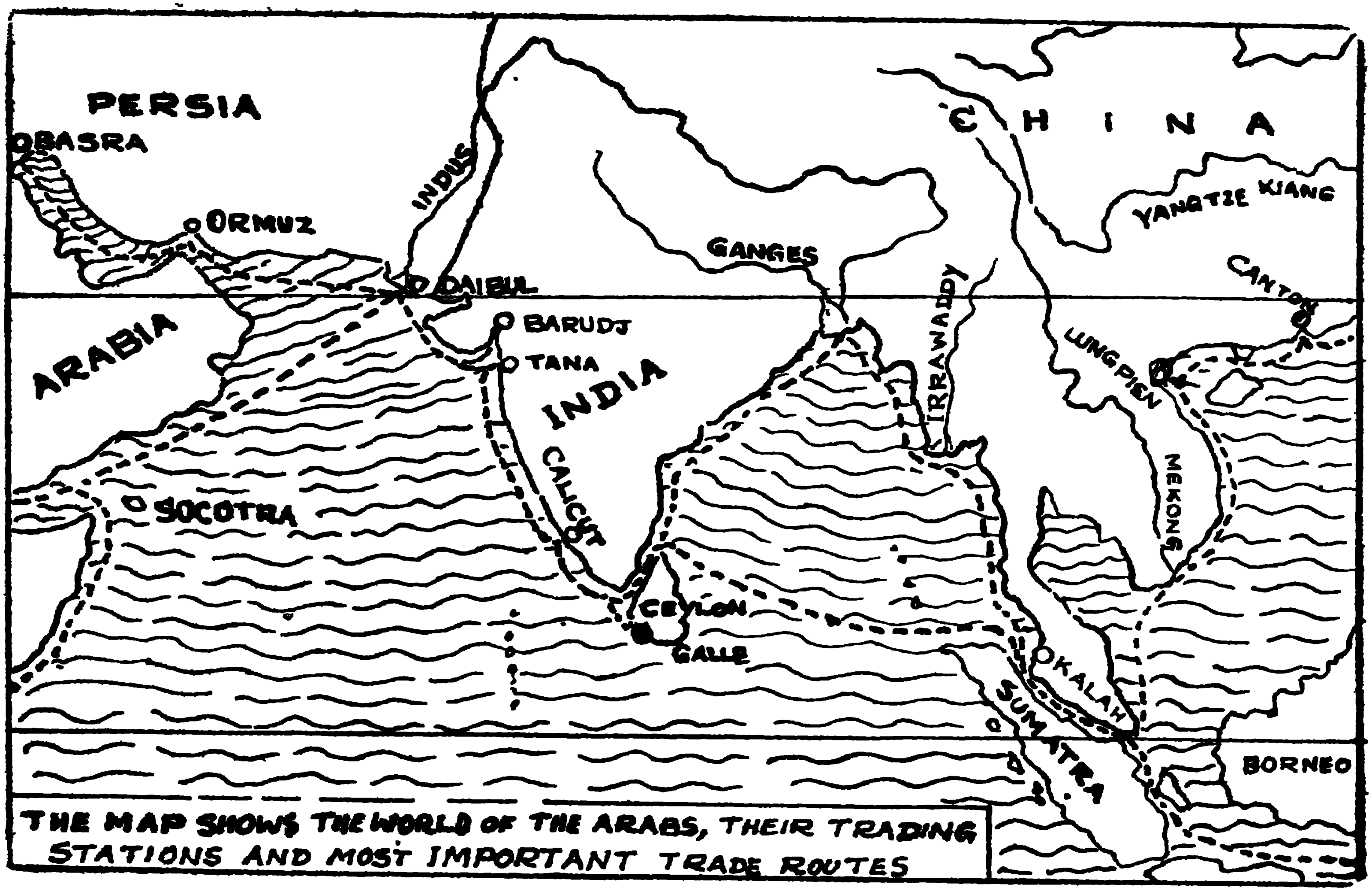


A Chinese Junk

After the Chinese withdrawal from the Indian Ocean in the middle of the 15th century, they did not return.

Arab Navigation

During the 7th century A.D. the Arab tribes, unified and energised by Islam spread like a fire, siezed Persia, Syria, Palestine and Egypt and made themselves masters of the trade routes to India. By 711 A.D. they had established themselves in Spain. Seven



Arab Voyages (18th Century A.D.)

years later, they isolated Byzantium with the help of a powerful navy manned by expert sailors drawn from the conquered races and gained absolute control of the sea-routes of the Mediterranean and the Indian Ocean.

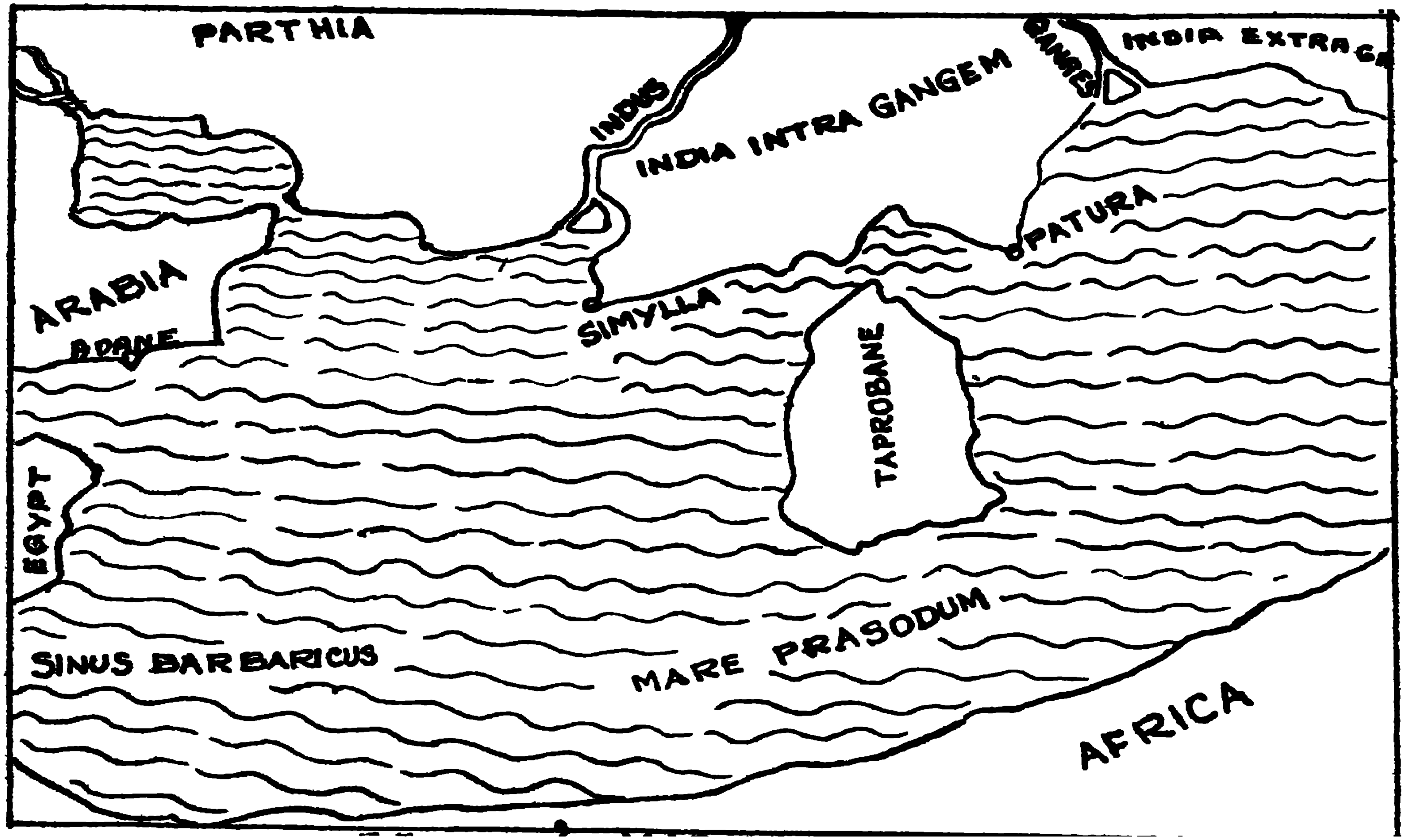
Arab seafaring soon became more extensive and regular in the Indian Ocean. Arab ships plied regularly along the entire African coast as far south as Sofala. To the east they sailed to India and Sri Lanka and on to Malay peninsula and Sumatra, and farther to South China. Sizeable colonies of Arab merchants were established in these far away countries. The Sea route to China was described in an Arabic sailor's manual (851 A.D.) written by an Arab dhow traveller, Sulaiman. Arab penetration to the Far East naturally inhibited Chinese seafaring. In consequence Chinese junks which used to visit Indian and Ceylonese ports regularly bringing silks and porcelain came less frequently. There are references to ruthless Arab-Chinese conflicts during this period of trade rivalry.

These Arabian merchants and their ways were often resented by the Chinese. In 875 A.D., we learn, the people of Hangchow rose against them and killed 26,000 foreign merchants residing in that city. After this massacre Arab ships did not sail beyond the Malay Peninsula.

The Arabs however continued to control the sea-route to India and kept it so well-guarded a secret that down to the days of Vasco da Gama no European nation knew the direct passage to India.

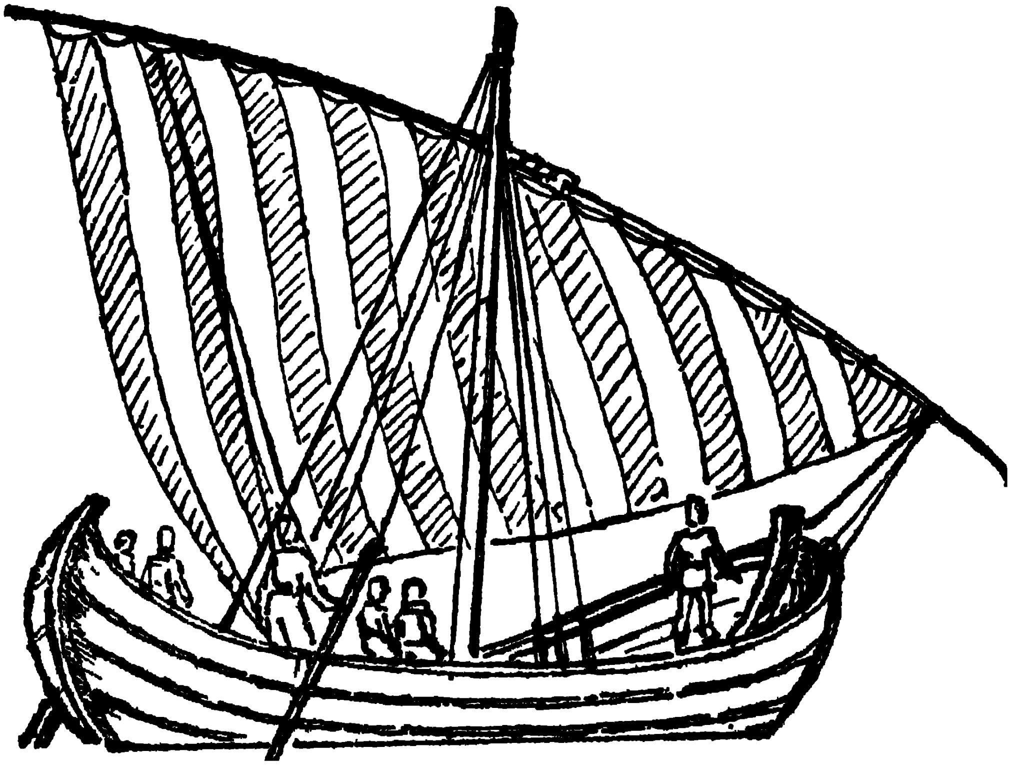
Arab world map

To the Arab cartographers the world owes the earliest reliable maps of the world and navigational charts. Pre-Arab maps of the world were influenced by the different world-pictures projected by the early theorists and philosophers. The Greeks had the Aristotelean world picture, a disc circled by the great waters of the earth. The Christian world picture was, to begin with, a rectangular structure set in surrounding waters, later rounded to a disc. There was an earlier world map made by



An outline sketch of Claudius Ptolemy's World Map (1st Century A.D.)

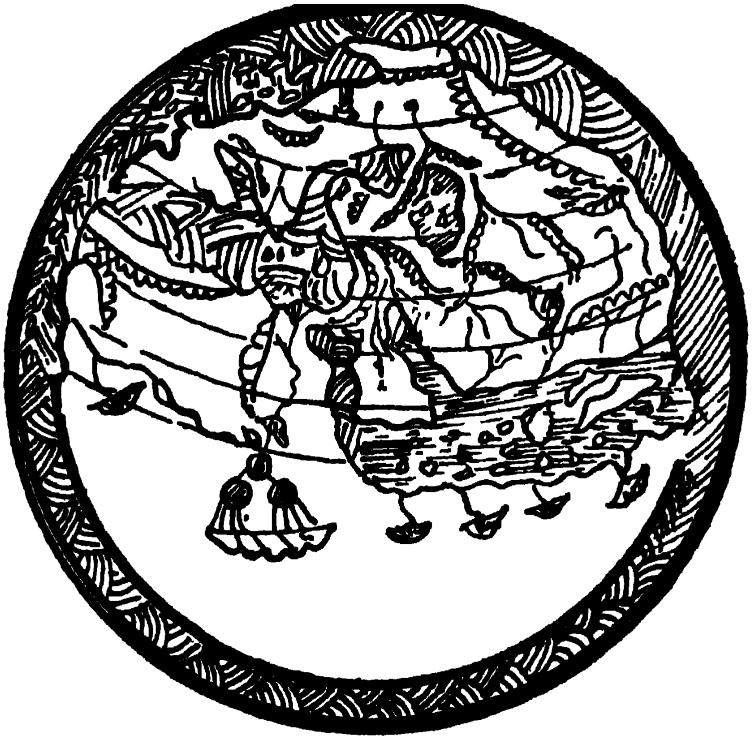
Claudius Ptolemy (1st century A.D.) the great astronomer of Alexandria, which had remained unknown to Europe. Ptolemy knew his geography better than any European. For the first time this remarkable man invented and used a system of grids with longitudes and latitudes and fairly correct distances marked to scale. His world, however, has an awkward shape and resembles an over-generous slice cut out of a pie. Ptolemy's Africa runs wild at the south to form an enormous land bridge with China, with a stunted India, and an oversized Ceylon set in the centre of a land-locked Indian ocean. Even with these distortions his depiction of the land masses north of the equator, with which he was more familiar, is closer to what we have in our modern atlases. The great Arab cartographer, Al-Idrisi, (12th century) who knew Ptolemy's map and had additional information gathered from Arab seafarers, produced a fairly reliable map of the world. He too depicted the African continent as extending far to the east, (a legacy from Ptolemy), but his Indian Ocean is not imprisoned,



Arab Ship

but opens into the China Sea. Compared to the later medieval, European maps influenced by the Biblical world picture, Al-Idrisi's seventy page atlas is a cartographic wonder.

The Indian Ocean was beginning to get its true shape and size defined in the world map thanks largely to Arab navigators and cartographers.

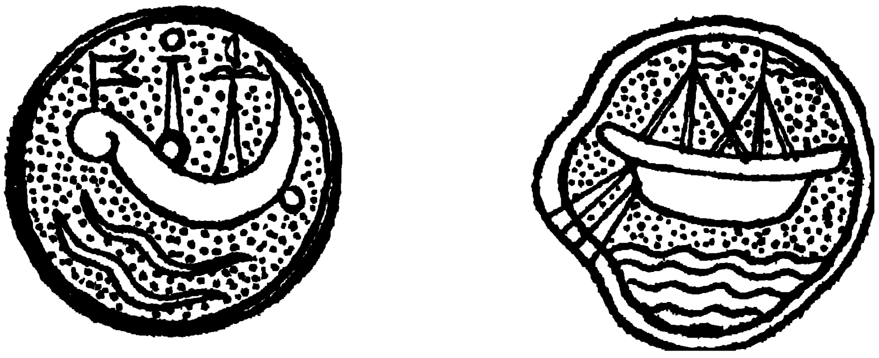


Al-Idrisi's Circular Silver Map of the World
shape of the Land Mass is after Ptolemy
(10th Century)

CHAPTER III

SOUTH INDIAN NAVIGATION DOWN TO THE COMING OF THE EUROPEANS

INDIA had embarked on extensive oceanic navigation nearly one thousand years before Europeans began their great exploratory navigation in the 15th century. The Mauryans had already laid the foundation for India's maritime enterprise, even if they made no memorable voyages. As the Mauryan ports were on the coast of the Bay of Bengal it was in this area that subsequent developments in seafaring took place. The Mauryans were followed by the Andhra dynasty who developed several ports and built large ocean-going vessels for trade and transport of passengers to the Far East. During this period Indians ventured to Sumatra, Java and even to some of the Pacific islands and established Indian colonies and trading posts. No wonder that a number of coins struck during the Andhra period are found to have pictures of ships on them. Similarly, coins of the great age of European navigation are seen to depict pictures of ships on them. The sea



Andhra Ship-Coins of The Second Century A.D.

was indeed very much in the consciousness and life of the people during those days.

One of the curious facts of Indian history is that till recent times India had forgotten that her culture and influence had spread over large areas in the East and South East Asia. We owe it to the French and Dutch archeologists and historians that their labours brought the picture of Greater India once again back to our memory. From their accounts it appears that there was a great gold rush sometime in the 1st century and Indian adventurers proceeded in large numbers to Sumatra, Java and Cambodia. The abolition of caste barriers and food tabus during the Buddhist period must have helped passengers drawn from different social strata to live together and undertake long voyages. In the Buddhist jataka texts we find the beginnings of a literature of adventurous seafaring. It is generally believed that the earliest overseas Indian kingdom was established in the middle of the 4th century. This belief is confirmed by a Sanskrit inscription (Bhadravarman inscription) discovered in Champa. It is said that Hindu sailors set up pillars inscribed with prayers for successful voyages. We find a similar custom followed by the Portuguese navigators of the 15th century who also set up commemorative pillars after their succssful exploratory voyages.

From the fifth to the thirteenth century Southern India was in active martine relations with the overseas Hindu kingdoms in Cambodia, Thailand, Java and Sumatra. Sea-traffic between the mother country and these outlying colonies must necessarily have been regular and of considerable volume. Apart from merchant vessels carrying merchants and cargo there were ships of different sizes and shapes for tranporting large bodies of soldiers and equipment and horses and elephants required for the protection of Indian colonies abroad.*

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* Pali literature gives valuable information about ships and sea-voyages. The *Rajaballia* mentions that the ship in which Vijaya and his followers sailed from Bengal had room for 700 passengers. The *Shanka jataka* refers to a ship 800 cubits long, 600 cubits wide and 20 fathoms deep. In measuring the width the out rigger must have been included.

Sea power played an important role in the wars fought between Hindu kingdoms. There were instances of sea-borne invasions of coastal territories. Early in the 7th century, the Chalukya king, Pulikesin, led a naval expedition against the Kalingas (Andhra) who had established their naval supremacy in the Bay of Bengal. The invading fleet is said to have sailed down the west coast, rounded the Cape of Kanyakumari and sailed north to the coast of Orissa to capture the Kalinga city of Puri.

After the Andhra dynasty the Pallava kings rose to power in South India and gained control of navigation in the Eastern Sea. From the evidence of inscriptions and frescoes, architecture and historical records in Java, Sumatra and Thailand we learn that from the 7th to the 9th century Hindu Pallava rulers exercised extensive political and cultural influence on these lands through regular maritime intercourse.

In 985 A.D. the Cholas revived their power under king Rajaraja Chola, and South Indian navigation became more venturesome. The king sent out naval expeditions to conquer Burma, Malaysia and Indo-China. His son, Rajendra Chola (1012 A.D. to 1044 A.D.), expanded the Chola overseas empire. He is also famous for his conquest of parts of North India—a feat which must have warmed the hearts of South Indians. He had a powerful navy and he maintained regular traffic between the mother country and the ovearseas territories. To celebrate his victories in his war in Malaysia (known to the Tamils as Kadaram) he named several villages near Tanjore as Kadaramkondan. After Rajaraja Chola, his successors fought and won several naval battles to consolidate Chola power in Ceylon, Malaysia and Sumatra. Because of their strong navy, the Cholas and the Pandyans were able to exercise a strong influence over Ceylon.

The continuity of India's maritime relations with its Far Eastern colonies was interrupted by wars and conquests in the home-land and by revolt in the colonies. Indian navigation was also affected by the pattern of colonial politics and wars. The native population of the colonies could not have been happy over the ways of the Indian merchants and settlers who looked upon

Java and Sumatra as Lands of Gold (Swarnadwipa, Swarnabhumi), same as the English merchants of later centuries considered India as the land of the Pagoda Tree. Down to the days of European intrusion in the area, the ancient renown of the Malaysian region for its enormous wealth persisted and the region was marked in European maps as the Golden Chersonese. Indian colonials of those days were no less greedy than the European colonials of recent history or the Indian merchants of our own days who are being unceremoniously hustled out of the countries where they have set up trading marts.

When we consider how our mercantile enterprise reached far out beyond South China Sea to the Philippines using inferior vessels and poor navigational equipment and charts, we cannot but admire the courage and spirit of adventure of those early sailors.

We have evidence of early Indian colonisation of Manila in the Philippines nearly a thousand years before any European explorer set his foot on the islands. It is even believed that the west coast of South America was colonised by adventurous Indian sailors who sailed farther east from their colonies in the Phillippine islands.

Our overseas empire, known as Sri Vijaya empire, was a mighty naval power. From the 5th to the 10th century, Sri Vijaya empire prospered and held sway over a large area comprising Sumatra, Malaysia and parts of Indonesia. According to the account of the Chinese traveller, I'Tsing, the Sri Vijaya kings had a large number of ships which sailed regularly to India, and to the east, as far as the ports of South China. This Indian naval power had a strong base in Sumatra and controlled the Straits of Malacca and harassed the coasts of Champa and Annam. They cleared the sea of 'pirates' who were probably native seamen resisting foreign intruders. In the same manner Indian seamen who fought against the Europeans were regarded as 'pirates' in the 16th and 17th centuries. Sri Vijaya empire maintained its connection with the Indian mainland, especially with the kingdom of Kalinga (Orissa).

For five hundred years Sri Vijaya enjoyed undisputed naval supremacy in these seas. In the year 1007, this Hindu overseas empire fell. Surprisingly, the attack came from India. The powerful Chola emperor, Rajendra, sent a large army across the Bay of Bengal to subdue Sri Vijaya. In a series of naval battles the Cholas defeated the Sri Vijaya navy, leaving Rajendra the Lord of the Eastern Sea. The Cholas captured Kedah, established a strong naval base there and extended their conquest over the rest of the Malay peninsula. Sri Vijaya was beaten but not destroyed, for she continued to control the straits of Malacca and fought a prolonged defensive war which went on for a hundred years. Finding the war profitless, the Cholas finally abandoned their dream of conquest. At home, the Chola kingdom itself was subjected to attacks by a strong combination of neighbouring princes. At the end of the century when the Cholas gave up their overseas campaigns and returned home, Sri Vijaya retained Kedah and continued to exercise control over navigation even after one hundred years of exhausting war.

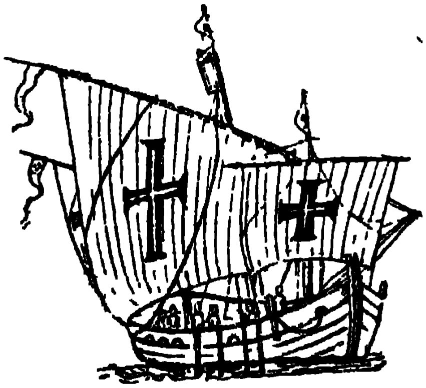
Sri Vijaya attempted a recovery of her maritime power in the first half of the 15th century, for we find a Sri Vijaya ruler, Chandrabhanu, invading Ceylon with a powerful fleet and devastating that unfortunate country. Ceylon produced a valiant leader, Virabahu, at this critical period. He rallied his countrymen and defeated the invader and his Pandyan allies. Later, Chandrabhanu and his Pandyan ally fell out. In the battle which followed Chandrabhanu was killed. It is a tragic irony that a power of the mainland of India was responsible for extinguishing the great naval power of an Indian overseas colony. After Chandrabhanu Sri Vijaya ceased to be a naval power and fades out of history.

A word may be said here about the trading organisations of those days. Like the Hanseatic League and the Venetian merchant-guilds of Europe of the medieval days, the Hindu merchants of those early times organised themselves into merchant guilds. The South-Indian commercial corporations wielded considerable international influence through their extensive commercial activities and enjoyed high privileges granted to them by the rulers of the kingdoms with which they traded. There were two famous guilds, one called 'the Fifteen hundred' and another named Manigramam Merchants who regularly traded with Sri Vijaya in their own ships and had their overseas establishments.

These merchant guilds also served as a cultural link between the mother country and the colonies. To the west, Manigrama enterprise is believed to have extended to Persia, Asia Minor and Egypt.

On the Arabian sea Indian navigators were no less active. In South India, the ships of Chera kings regularly sailed to the west and the east from the famous port of Calicut, Kodungallur and Kollam. The Manigramam merchant guild had their depots in Cochin and enjoyed high privileges granted by the ruler. In course of time when Hindu sea-power weakened and the great period of Arab seafaring began, the merchant guilds also weakened. Where Arab influence was strong, as in Calicut, we hear less of the Manigramam guild activity. In Cochin where Arab influence was weak, there was a powerful guild of the Manigramam merchants.

Thus, the weakening of Hindu seafaring as a result of the Chola and the Sri Vijaya empires gave the Arab seafarers an opportunity for extensive navigation and trade in these regions. As a result, Arab navigators pushed their way as far east as China and established trading posts along the coast. They eliminated their competitors, took over their trade and stayed on till Vasco da Gama's exploratory ships anchored off Calicut on a fateful day in October, 1498.



VASCO DA GAMA'S SHIP

EUROPEANS ENTER THE INDIAN OCEAN

CHAPTER IV

THE ZAMORINS OF CALICUT RESIST THE PORTUGUESE

FOLLOWING Vasco da Gama's voyage to Calicut in 1498, Portugal, the world's most powerful naval power of those days, attempted to dominate the Indian Ocean and usurp the trade and navigation of the littoral nations from East Africa to Malay Peninsula. During the first half of the 16th century Alfonso Albuquerque and his successors vigorously pursued this policy and established a chain of Portuguese colonies from Macao in China to the Persian gulf and all the way down to Cape Agulhas in South Africa.

Asians, then as now, were torn by mutual jealousies and at war among themselves. While some resisted the Portuguese, others actively helped them. This fact, and their superior weapons helped the bold Portuguese generals to gain quick victories and establish themselves along the rim of the Indian Ocean in a short period of hardly twenty years after their arrival.

In India, resistance came from the littoral kingdoms—the Sultan of Gujarat, Adil Shah of Bijapur, the Raja of Mangalore, the Rani of Ullal and the Zamorin, king of Calicut. Some of our Indian princes took Portuguese help to fight their neighbours. The major land powers of India were not interested in what was going on along the coast so long as their needed overseas supplies were not interrupted. The powerful king of Vijayanagar found it safer to have the Portuguese rather than Adil Shah at Goa, the port which supplied annually several thousand Arab remounts for the famous Vijayanagar cavalry.

The major land powers were, besides, far too busy fighting it out among themselves to worry about a handful of Europeans scattered along the coast. It was well for them to cultivate the European, for despite his strange ways, he made excellent cannon and gun powder the land powers needed so badly.* It was equally well for them that the Portuguese broke the Arab monopoly of foreign trade.

Though Indian resistance was feeble, uncordinated and desultory, the gallant Moslem admirals of Calicut under the leadership of the proud Hindu kings of Calicut fought a hundred years naval war and denied the Portuguese an effective foot-hold in their territory. Later, in the 17th century, the Dutch, the French and the English came on the scene. The domination of both the Indian Ocean and the Indian peninsula was destined to pass eventually into the hands of the English.

The spearhead of our resistance to the Portuguese was the Calicut navy led by the redoubtable Kunjali Marakkars. With the fall of Kotta, the Marakkar stronghold, in 1600, effective Indian resistance to European domination of the seas collapsed.

The Kunjalis were a family of Moplah (native Moslem) marine merchants originally established at Cochin. They were forced to migrate to the Zamorins' port of Ponnani when the Portuguese built a fort at Cochin and began molesting them. The Zamorin was looking for a naval leader and when Ali, the head of the family, offered his ships and services the king appointed him admiral of his fleet and gave him the title *Kunj Ali,* (the Beloved Ali). There were four Kunjali Marakkars in succession to the Calicut admiralty. The head of the Kunjali Marakkar family succeeded to the title and office which was hereditary. These four Kunjalis fought a hundred years naval war against the

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* **This dependence on supplies of Western arms by Eastern nations continues right down to our times**

Portuguese and saved the Kerala coast from becoming a Portuguese colony—facts about which our historians are silent.

A few of the major events in the naval war between the Zamorins of Calicut and the Portuguese and some of the gallant exploits of our seamen led by the Kunjalis are briefly described in the following pages.

Vasco da Gama came to India a second time in 1502 with a fleet of twenty ships fully equipped for war. Formally proclaiming suzerainty over the Indian Ocean, he imposed a system of passes known as Cartaz on all shipping. Ships which did not carry the Portuguese pass were plundered and burnt. Indian and Arab ships were prohibited from carrying certain specified commodities of value. They had to confine their sailing only to authorised ports and never put in at Calicut. To impress on the ' natives ' that he meant business and that he was indeed the terror of the Indian Ocean, Vasco da Gama committed a crime of unparalled barbarity. At Madayi Bay, near Cannanore he saw a large Calicut ship which was returning from Mecca with five hundred piligrims including women and children. The Portuguese squadron attacked the lone ship from all sides. For eight days the ship defended itself with desperate resolution and foiled every attempt made to board it. Finally, Vasco succeded in burning the ship after confining the helpless passengers under the hatches.

When report of this black deed came to the Zamorin at calicut he swore a mighty oath that he would ' expend his whole kingdom to fight the monster and destroy him'. He mustered a large number of odd vessels at his ports and sent his ambassadors to Cairo for Egyptian help. Arab merchants had spread along the coast reports of the invincibility of the Egyptian navy. It was, however, unfortunate that the Zamorin did not think of making peace with his immediate neighbours. the Rajas of Cochin and Cannanore. Both these Rajas became allies of the Portuguese and permitted them to build forts and naval facilities at their ports.

Malik Ayaz, Governer of the Port of Diu, also a fellow-victim of Portuguese aggression, sued for help from Cairo and waited patiently for an Egyptian fleet to arrive, which was reportedly on its way to India.

The Cartaz was vigorously resisted by Indian and Arab shipping. Indian seamen ran the blockade, some times in open clash with Portuguese patrol ships, and at other times clandestinely. Captain Kutti Ali of Ponnani is said to have armed four vessels and escorted Indian and Asian ships, courageously flouting the Portuguese squadrons on patrol. This remarkable seaman was an officer under the famous Kunjalis, of whom we begin to hear for the first time during this troubled period.

The Portuguese declared that the sea belonged to the king of Portugal. Barroes, the Portuguese annalist, sets down the following strange theory in justification:

> As we were masters of the seas, whoever wished to navigate, whether gentile or Moor, in order to do so securely and peacefully, asked for a safe conduct from our captains and if this infidel is found not proceeding from places where we had fortresses, with just title we may capture him as a fair prize of war. For although the seas are common and open to all navigators by common right, yet this law has force in Europe among the Christian folk.

From the angle of the victims of this oppression, Zeinuddin writes:

> The Portuguese confiscated Muslim ships if, they did not carry their passes and enslaved their passengers . . . . The foreigners began to gain control over the trade. They would not let Muslims sail to Arabia and the major ports of India.*

Taking advantage of native ignorance of Portuguese language, unscrupulous captains sometimes issued cartaz in which they recommended the ship for plunder by the first Portuguese patrol caraval that it might fall in with. A Portuguese captain, Gonzalo Vaz, did not respect the pass issued by Brito, Captain of Cannanore, to one of the Calicut ships and plundered it. To conceal the Crime, he sank the vessel after drowning the crew whom he neatly sewed up in a sail and flung into the sea, weighted with shots. The sea yielded up the secret, for several dead bodies were washed up ashore. The people of Cannanore rose in a frenzy of anger and forced their king to lay siege to the Portuguese fort. The Portuguese were compelled to sue for peace and relax the cartaz system temporarily.

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* Tohapat-ul-mujahiddin.

Exploits of Captain Kutti Ali

Captain Kutti Ali was a realist. He knew well that Calicut saips had no chance of victory in pitched battles, and for the first time, he organised what may be described as sea-guerilla war, which proved eminently successful. The heavy Portuguese vessels were slow except when they sailed with favourable winds. Kutti Ali built war-paroes -- fast boats rowed by forty armed men and navigable in shallow waters. He had hundreds of these boats in every river mouth and creek. His men, stationed on hill tops, kept watch over the sea and signalled the movement of enemy vessels to the war paroes. Flotilla after flotilla would then streak out and attack the enemy. These small boats presented a difficult target to the enemy cannon. By setting fire to the sails and tackles, his sailors would immobilise the enemy's ship and board her. In the hand to hand fight, Indian seamen gave no quarter, nor asked for any.

Under cover of these engagements Captain Kutti Ali managed to send out to sea Indian and Arab ships freighted with merchandise escorted by armed vessels. The Portuguese were forced to convoy their merchantmen resulting in a reduction of the volume of their trade. "Calicut greatly oppressed us with their war-paroes", wrote Albuquerque to his king. " The Calicut men would watch on hill tops and any *atalaya* or vessel they see coming, they at once pounce upon". Albuquerque, finding the blockade of Calicut futile, wished to make peace with the Zamorin and wrote to his King almost in despair:

> Your caravels do not dare to send out their boats while they (Calicut sailors) have a 100 paroes laden with merchandise around one ship and frieght her in two hours and with the right wind goes the round of the sea, and your vessels remain at anchor —— They have always done navigation and will continue unless you have those ports occupied with very good ships and some rowing vessels close upon the shore.

Albuquerque needed a string of strongholds along the coast. The capture of Goa gave him a major base, but he needed one in the Zamorin's territory famous for its spices and calico and swarming with smugglers. Fortunately for Albuquerque, the old Zamorin, enemy of the Portuguese, died, and the new Zamorin who had lost faith in the vaunted strength of the Egyptian ally, was in a mood to respond to Albuquerque's overtures. Though the treaty of peace that followed was soon broken, the Portuguese strengthened their position sufficiently to molest Indian shipping once again.

In the year 1523, Kutti Ali brought to Calicut a fleet of two hundred ships defying the presence of a powerful Portuguese squadron. He freighted a large number of them with pepper and despatched them with an escort of forty vessels to the Red Sea before the very eyes of Portuguese. In these operations, Kutti Ali was assisted by his younger brother called the younger Kutti Ali. The two brothers commanded each a fleet; the younger Kutti Ali cruised about in the north, in the vicinity of Goa while the elder remained near Cochin. Sometimes Kutti Ali ventured out with his whole fleet. Off Cannanore, his fleet fought a great and prolonged battle with a squadron commanded by Sampayo. The result was not decisive. The fleet returned to Calicut and subjected the Portuguese factory to furious bombardment. Though there was no declaration of war then and a treaty was nominally in force between Calicut and Goa there where frequent clashes at sea. Captain Kutti Ali's fleet lay off Calicut and began to harass Portuguese vessels. Vasco da Gama who was then in India sent one of his ablest seamen, Martin Affonso D'Souza, against Kutti Ali's fleet at Kappat. After a fiercely contested battle the issue of which was undecided, Kutti Ali withdrew to Pantalayini for replenishment. D'Souza came upon him the next day and drove the fleet before him as far as Cannanore. In the fight which developed off Cannanore, D'Souza was victorious and forced Kutti Ali to abandon his ships. His brother, the younger Kutti Ali, also suffered a similar fate, when George Tellia induced him to fight a pitched battle off Goa.

Among the leaders of the naval-guerilla were two other distinguished captains, Pattu Marakkar and Balia Hassan. Pattu Marakkar assisted by the Atikal of Purakkad, a petty chieftain, seized and sank every Portuguese ship he fell in with. Balia Hassan, a Moslem captain of Cannanore and a relative of the Raja of Arakkal, proved himself so great a nuisance to the Portuguese that Vasco da Gama was compelled to proceed to Cannanore and ask the Raja to surrender him. The Raja tried to put him off, but in the end, he surrendered Balia Hassan and Vasco da Gama had him thrown into a dungeon in the Cannanore Fort. When Henry Menezes succeeded Vasco da Gama, one of his first acts was to order the execution of Balia Hassan.

The next Zamorin declared war on the Portuguese and proceeded to attack their fort in Calicut. Menezes acted quickly and struck the first blow on the Zamorin's shipping at Ponnani. On the 26th February 1525, he bombarded Ponnani and succeeded in setting fire to some of the ships in the port. Captain Kutti Ali paid the Portuguese back in their own coin. In one reckless venture, he stealthily entered the port of Cochin, burnt all the Portuguese vessels he found there and made safe return. Menezes next visited the port of Pantalayini, a flourishing Moslem settlement, defended by a large number of Nayars and Moslems. The Portuguese landed in three divisions and fought bravely and put the defenders to flight. They captured 250 cannon, large quantities of ammunition and forty vessels. This was in the month of June, 1525.

When the Zamorin laid siege to the Portuguese fortress at Calicut in 1525, Kutti Ali supported the attack by intercepting supplies which came from Goa and Cochin and occasionally by bombarding the fort from the sea. The siege dragged on for five months. The garrison was in great hardship. On the 15th October, Menezes came in person commanding twenty ships to relieve the garrison. Kutti Ali harassed Portuguese shipping so effectively, that the Portuguese were compelled to abandon the fort. A year later(1526) Menezes died of a wound he received in a fight with a Calicut ship off Beypore.

Lopo Vaz da Sampayo who succeeded Menezes resumed vigorous measures against Kutti Ali. In the year 1528, he proceeded against him with a powerful fleet. Kutti Ali evaded him for a while, but off Bacanore (Barkur), Sampayo's fleet compelled him to fight a battle in which a great part of Kutti Ali's fleet was destroyed. Kutti Ali escaped with the remnant of his fleet. The Portuguese won another victory over Kutts Ali's brother, Chinna Kutti Ali whose fleet of sixty ships was encountered between Mangalore and Mt. Eli. D'Esa, the Portuguese captain, succeeded in boarding the flagship. Chinna Kutti Ali was captured. He was released later for a high ransom, but only after he was made to swear on the Koran that he would not fight against the Portuguese.

In the month of September 1528, Chetwai, one of the ports of the Zamorin, was attacked by the Portuguese. They blockaded the river mouth in an attempt to bottle up several ships of Kunjali's fleet. This proved to be a fatal step for the Calicut vessels counterattacked, destroyed several Portuguese ships and massacred the crew. The Portuguese version attributes the disaster to a violent east wind "which arose suddenly and drove the ships ashore". This, as William Logan points out in his *A Manual of Malabar*, is difficult to understand, "for an east wind ought to have blown them out to sea" and not towards the land. About the same period, the Mopla settlement at Dharmadam produced a brave seaman, Ali

Haj. Commanding a large number of armed boats, he secured the sea around so that Portuguese vessels were unable to come out to sea.

These activities of Kunjali and his captains interrupted sea communication between Cochin and Goa for several years. Goan trade was seriously curtailed and the King of Portugal was concerned over the loss of ships and trade. Indian seamen were in such complete control that we find a Portuguese Governor, Affonso Mexia,complaining to the king (letter dated the 15th January 1530) that "the principal reason that we have no pepper is because the coast is not well protected and it is taken to Mecca, Diu and elsewhere".

The Zamorin was determined to fight the Portuguese wherever they were to be found. Ceylon was an important link in the east-west trade of the Portuguese who had a fort and naval facilities at Colombo. The seadogs of Calicut frequently appeared before Colombo and subjected the fort and shipping to heavy bombardment.

The Zamorin intervened in the succession dispute for the throne of Lanka, supporting the claims of Mayadunne, brother of Bhuvaneka Bahu, the ruler of Ceylon who was a helpless puppet in the hands of the Portuguese. Among the several battles fought, the battle of Vidulai was the biggest and most disastrous to the Zamorin.

In 1537, the Zamorin sent out a mighty force under three chosen leaders, Ali Ibrahim, Kunjali Marakkar and Pache Marakkar against the Portuguese entrenched in Ceylon. The fleet consisted of fifty-one major ships mounting 400 pieces of artillery. There were 5000 soldiers including 1000 arquebuisers on board. The grand fleet, starting from Ponnani, voyaged leisurely, capturing several Portuguese vessels on the way, incuding ***San Pedro***, which had an unbeaten record of twenty two voyages to India, and occasionally stopping to plunder a few of the coastal towns. Bhuvaneka Bahu, alarmed by reports of the size and strength of the

Calicut fleet, turned to the Portuguese Governor of Goa, for help. The Governor at once sent orders to Captain Martin Affonso De Souza to hasten to Colombo.

Let me quote Father Ferroli (*The Jesuits in Malabar*, Bangalore Press, 1939 pp. 118-120) for details of the battle ,

> " Martin Alphonso de Souza was patrolling the Malabar coast, when he heard that Pate Marakkar had eluded him and had reached the Fishery coast. Grimly he sailed southwards. His first attempt to get at the enemy failed, bad weather preventing his heavy sailing ships to get northwards on the east coast of Cape Comorin. With great difficulty, he reached Manapad by mean of rowing boats .... But he had to return to Cochin to equip himself better for fight. "
>
> 'The Moslems attributed his departure to faint-heartedness and believed themselves quite safe. But on the 28th of January, 1538, de Souza, at the head of 300 soldiers in 22 row boats (with 700 crew and the slaves), made for Vidulai. On the way, he seized some boats of the Pate Marakkar's people who had been fishing pearls and he delivered them over to the vengeance of the inhabitants of Tuticorin. Before daybreak, on the 30th, he attacked the Moslems from the sea, and while these were hurrying on board their ships and the fight was raging on the shore, he landed with his main force east of Vidulai and fell on the flank of the Moslems. A terrible fight took place with varying fortunes on both sides. Most of the Portuguese were wounded, when one of their Malabar Captains got a splendid idea ; he set the Mohomedan boats, which were still on the beach, on fire, so as to make flight impossible. On seeing their ships burning, the Moslems lost every hope of escape and ran landwards in wild panic. At 10 a.m. the battle was decided. 800 dead Moslems covered the

> battle field and the whole camp with its rich booty fell into Portuguese hands—400 cannon, 2,000 muskets and many other weapons, 22 war-paroes, and Pate Marakkar's gorgeous tent with the state parasol, a present of the Zamorin to Mayadunne. The Paravars took the rest of the booty, delivered their prisoners and gave back the captured ships to their owners. As retaliation for all they had suffered, they once more burnt down Kayalpatnam, which the Mahomedans had just built up.'.

The victory of Vidulai was extolled in Portugal and indeed all over Europe. Of the three Calicut chiefs, Ali Ibrahim was killed and both Pachi and Kunjali lost all their treasures. To the Zamorin it was a severe blow.

We do not know enough about the Kunjalis I and II, but Kunjali III, is acknowledged by Portuguese historians as the greatest of the Calicut Admirals. He was a far-seeing politician, a brave and expert strategist, and above all chivalrous.

In the year 1564, when the Portuguese were officially at peace with the Indian princes, a Portuguese captain, Mesquito, known among his own countrymen as "a man of no conscience," was at large, committing various acts of piracy with the connivance of the Viceroy of Goa. He is reported to have captured twenty four native ships and either beheaded or thrown the crew overboard weighted with shots so that none survived to tell the tale. Portuguese historians give the number of Mesquito's victims as two thousand. The Zamorin complained to the Viceroy at Goa, but as no action was taken, he sent Kunjali to deal with Mesquito.

When Mesquito was active along the coast in the gruesome manner described, the dead body of a Mopla sailor was washed ashore on the Cannanore beach. His young widow took up the body and proceeding to the town stirred up the people to revenge. Led by Ali Raja, a large army of Hindus and Moslems besieged the fort, overwhelmed the coastal defences and succeeded in destroying thirty Portuguese ships. The Zamorin sent his admiral, Kunjali, with a fleet to Bhatkal to cut off reinforcement from Goa. Paulo de Lima was sent from Goa with a well-armed fleet for the relief of Cannanore. Kunjali came upon him with seven paroes. "After the usual salutes with their respective cannon, Kunjali with three of his ships attacked and boarded Don Paulo's flagship and obliged him to return to Goa", Kunjali had grand knightly manners and he disdained to take the enemy at a disadvantage.

After Lima's defeat, Goa sent a bigger fleet under Don Mascarenhas against Kunjali. As it sailed down the coast, Kunjali fell upon the ships in the rear with only three paroes and "succeeded in doing great damage." Yet another fleet was sent commanded by Luiz de Mello. Off Mangalore, the captain was tempted by a richly laden ship of Cannanore. The whole fleet attacked the ship, but the gallant captain fought a splendid action and obliged De Mello to retire. De Mello, having forgotten his mission did nothing to relieve Cannanore and spent his time in unsuccessful raids on Mangalore and Ullal—an act which brought upon him a fleet of thirteen Calicut ships. The fleet chased De Mello and brought him to an engagement in which he was defeated. He retired to Goa, where he was imprisoned for refusing to help the Cannanore garrison. In 1566 the war ended, the Portuguese suing for peace, and the prestige of Ali Raja of Cannanore and Kunjali rose in consequence. The succeess of Kunjali inspired several petty chieftains of the coast to fit out hundreds of small ships which cruised along the coast, setting upon the Portuguese whenever fortune favoured them.

This increase in what the Portuguese describe as piratical activities is noted by Sheikh Zeinuddin, the Moslem chronicler. It is, in fact, an intersting phase in the development of our national spirit, for these war-like efforts came to be undertaken generally by the people and the princes whose trade and political interests the Portuguese had usurped. It was in fact assuming the character of a national war for the recovery of India's sea-trade and less of a war fought for the preservation of mere dynastic interests. The Sheikh describes this rising of the people:

> ‘The inhabitants of Badfutan, Turkoz and Fandereah* and other towns, who having equipped certain small Ghārubs and armed themselves with weapons of defence - sailed out so sea, carrying with them no passes of the Franks, but being resolved upon resistance.........About the middle of the month of Ramzan 974 A.H. (1564 A.D.) the inhabitants of Funam and Fandereah, accompanied by others, having sailed in a fleet of 12 grabs, captured a carroka belonging to the Franks which had arrived from Bengal...Furthermore, in the year 976 A.H. (1566 A.D.)another party of the same people...sailed out in a fleet of 17 grabs (among the party being Kutti Pokker) and made capture at Shaliat (Chaliyam) of a large *carroka,* having on board nearly 1,000 Franks, many of them approved veterans’.

In these actions the Portuguese lost hundreds of their fighting men. Indian sailors sailing out in all directions from Kacl took twentytwo vessels of the Portuguese. In 1569 Captain Kutti Pokker of Kunjali’s fleet stole into the Port of Mangalore with only six garubs, set fire to the warehouse and returned safe, capturing one of the enemy ships. In this brilliant exploit “he made good his passage without losing a single ship”.

These incidents illustrate the firm determination of the Indian people to drive out the Portuguese—a resolve which, in the year 1570, took the final shape of a great confederation. The Zamorin, Adil Khan of Bijapur and Nizam Shah of Ahmednagar made preparations for war. The anticipated conquests were divided beforehand. The Asian nature of this grand alliance is revealed by the fact that the king of Acheen was a party to the pact. Accordingly, in the year 1570, Adil Khan besieged Goa and the Nizam invested Chawl. Other minor chieftains too attacked the Portuguese. The queen of Gersoppa attacked Honavar, then in the hands of the foreigners.

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*Valapattanam, Tikodi, and Pandalayini are the Malayalam names.

A part of the Zamorin's navy—a fleet of twenty-one ships with 1,000 soldiers armed with match-locks—under the command of Captain Kutti Pokkar sailed to Chawl to assist Nizam-ul-mulk. A formidable Portuguese fleet lay before the harbour guarding the entrance. The captain performed an incredible feat. Undaunted, he sailed into the harbour under cover of night, and landed men and supplies. This amazing man stayed in the enemy harbour for twenty days, fought a bitter, if unsuccessful, engagement with Lionel De Souza's squadron and after doing what damage he could, stole away one night "as fortunately as he had got in". De Menezes was then cruising along the Malabar coast with a powerful fleet of fifty galliots. Off Cannanore Kutti Pokker fell in with this fleet. In the engagement, he fell fighting bravely and, his fleet was destroyed.

In the meanwhile the Zamorin kept his engagement and besieged the fort at Chaliyam. The Portuguese garrison was in grave danger. De Menezes made several futile attempts to relieve the fort. At last George de Castro, the 80-year old Captain, was compelled to surrender the fort. The Zamorin allowed the men and women to embark without molestation. De Castro was permitted to go to Goa where he was subsequently executed in the market place for the surrender of Chaliyam. The king of Acheen began action against Malacca rather late in October 1571, The Portuguese won a victory over the Acheen fleet. The siege of Malacca was carried on vigorously but when the city was about to fall, the king, dispirited by his heavy losses, raised the siege and withdrew. The grand alliance failed to oust the Portuguese from Indian soil, but it checked Portuguese plans of political aggrandisement, Thereafter, they confined their attention to mercantile navigation. To secure this, Goa found it necessary to send fleet after fleet to the Malabar and the Coromandal coasts to keep the lanes safe.

The luck of the Portugese waned further during the reign of both Cardinal Henrique and King Phillip who was crowned in 1581. English pirates captured or destroyed home-bound treasure-ships returning from South America. The exploits of Drake from the Caribbean to Cadiz and the disaster of the Armada in 1588 crippled the sea power of the Iberian nations. Holland having declared her independence, the Dutch began their fateful voyages to India. In the Bay of Bengal the prince of Pegu had a fleet of 1,300 ships ready to curb Portuguese ambition in that direction. The prince of Ternate avenged his father's murder and succeeded in driving the Portuguese out of his country.

In 1577 the Portuguese captured fifty rice-ships belonging to the Kanara Ports in violation of the treaty, and war broke out once again in the Indian Ocean. Captain Kutty Moosa, cousin of the Calicut admiral, was in complete mastery along the Coromandal coast while the admiral began a successful offensive against Portuguese shipping from Gujerat to Cape Comorin.

In 1584, the Portuguese made enemies even in Cochin by forcing the Raja to assign to them the managment of the custom house— an act which roused the people to revolt. The Portuguese were compelled to appoint a commission which ordered the suspension of the collection. It was not enough any longer to have dealings with the kings, but there had emerged a new factor, the people, to reckon with. When the people discovered their rights and exercised their power of sanctions, there began the slow dissolution of the feudal order.

The vessels of other European nations appeared on the sea. Ralph Fitch was in Calicut in 1588. Cornelius Van Nec came out to India with eight ships in 1597. The end of Portuguese navigation was near. These European rivals gave Indian seamen every help to fight the Portuguese.

Admiral Pate Marakkar's* activities and the general action begun by the Konkan seamen alarmed Goa. Acts of reprisals were ineffective. Taking advantage of the weakness of the Zamorin, then on the throne, the Portuguese began negotiations to secure a site at Ponnani to build a fortress to serve their interests.

The Calicut Admiral Pate Marakkar warned the king of the dangers, but the king wavered. To mend the ruin to which the concession would expose the admiral's naval strategy, he asked the king's permission to build a fort on a square peninsula at the mouth of the Kotta river, a little distance to the north of Calicut. The Zamorin granted the permission. Soon after, the Portuguese got the Zamorin's permission to build a fort at Ponnani. The Calicut Admiral was thus able to build an alternative base before the Portuguese fort was erected at Ponnani. The wise admiral foresaw the course of events and took such precaution as he could. Kotta was a strong fort.

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* Kunjali III, also called Pate Marakkar.

> 'On the land side was a deep ditch with a double wall about 7 feet thick flanked at regular distances with towers .....mounted with cannon. Between the two creeks ... he built a strong wall with two towers to secure the town and lined the sea-shore with pallisados, flanked by bastions, one of which higher than the other was mounted with heavy cannon to defend the entrance of the harbour which was further secured by a boom of masts strongly chained together'.

From this stronghold " he began to make war on us " complains De Couto, the Portuguese historian, " taking many of our ships richly laden".

Two years after the building of the fort, Pate Marakkar died with a heavy heart filled with a foreboding of the end of the great work his illustrious dynasty had done for the king and the country. His nephew, Mohomad Kunjali Marakkar IV, succeeded him to the chieftancy of Kotta. A few years after the buiding of the Ponnani fort (1586) by the Portuguese, he began a mighty offensive. He sent Kutty Moosa with fourteen ships to the Coromondal coast where he took several Portuguese ships. The Viceroy hastily equipped twenty fustas and sent Don Andre Furtado de Mendoza to meet him. Furtado came upon the Indian-fleet near the Island of Cardiva. The Marakkar's fleet consisted of twenty-two galliots [illegible] his own being thirty-three banks with a beak of bronze". The ships re[illegible] fleet hurried to meet the enemy, but was thrown into confusion by some of the vessels running on the shallows. Furtado steered straight on them, his guns causing much damage and grappled with their vessels. The Indian sailors fought bravely but the Portuguese proved stronger. Kutty Moosa was compelled to throw himself into the water, his sword between his teeth, and he escaped with some of his men while the rest surrendered. After this exploit Furtado landed at Manar and rendered thanks for the victory. Soon after, he won another victory off the mouth of the Cadiga river where he defeated another Calicut fleet and took a large booty.

Mohamad Kunjali Marakkar IV operating along the west coast made certain notable captures and, for a while,paralysed Portuguese shipping. The Viceroy who had inklings from Calicut that the Zamorin and the Marakkar were not on the best of terms sent Alvaro de Abranches to Calicut to conclude a treaty of peace. Kunjali had grown indifferent to the Zamorin. The bonds of the old feudal order had become loose. The old principalities were breaking into fragments and there had emerged a new aristocracy wielding its influence in the newly risen towns which dotted the littoral. The Zamorin estranged, Kunjali acted on his own. He took measures to protect himself both against the Zamorin and the Portuguese and strengthened the fortification of Kotta. He supported the Rani of Ullal when she rose against the Portuguese. In April 1592 he made a notable capture of a treasure-ship from China almost within sight of Goa. The Portuguese were determined to do everything in their power to suppress the rebel.

Kunjali had become a source of danger even to his neighbours. He violated the honour of a noble lady, wife of a lord whose land lay close to Kotta. In his pride and arrogance he conducted himself like a tyrant, making many enemies. The close of the century was fateful to him. Kunjali styled himself king of Kotta. This brought about the end of Kotta and his own end as well.

The rest of the story is tragic, but soon told. Portuguese diplomacy succeeded in creating enmity between the haughty admiral and his proud sovereign. Kotta was invested by land and sea and attacked by the combined forces of the Zamorin and the

Portuguese. In the first attempt the allied army was repulsed with great slaughter. The next attack came a year later, after Kotta had been laid under siege in an attempt to starve the defenders into submission. His reinforcement cut off, Kunjali IV, the last of the Calicut admirals, surrendered to his sovereign, but the Portuguese claimed him and the Zamorin let him be taken away by Admiral Don Furtado to Goa where he was tried, found guilty and beheaded. That was the end of the prestige and glory of Calicut and the eclipse of an intrepid naval tradition.*

There is a sequel to the sad story of Kunjali which illustrates the high spirit of adventure of our seamen of those days.

At the time of Kunjali's execution, his cousin was in Goa, a prisoner of the Portuguese on parole. In 1581, as a boy of thirteen he had gone with Kunjali's fleet on an ill-fated expedition. Off Cardiva, Kunjali came upon the Southern Armada of the Portuguese consisting of fifty armed galliots commanded by Don Furtado. In the battle, Furtado won a great victory and took much booty and and many prisoners to Goa, among them this cousin of Kunjali. Because of his noble birth he recieved some measure of consideration. The Portuguese never exchanged these Indian seamen for ransom. The young captive was later baptised and given the name of Don Pedro Rodrigues. He married a Portuguese orphan. He did not work like the rest of the convicts. He commanded a squad of prisoners. All the same he was in chains like the others.

Don Pedro was in Goa when his cousin was beheaded. Perhaps, stricken witn sorrow, he was in the vast crowd of spectators who witnessed his brave kinsman's doom. Pyrard, the French traveller, who wrote about him, met him, still in chains, eight years after the event. Don Pedro Rodrigues was a handsome young man about thirty years old, and had spent seventeen years in captivity.

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*For the whole story of Indo-Portuguese naval war see my **THE KUNJALIS ADMIRALS OF CALICUT** obtainable from Jeevan Publications, 39/9 Lalbagh Road, Bangalore.

Don Pedro was, all these years, planning to escape and revenge himself on his enemies. We do not have all the details, but we know that one dark night he escaped with his family in a small boat. With almost nothing to start his career except his courage and genius, this young man gathered a few devoted followers, armed some paroes and proceeded along the coast, paying fearful attention to Portuguese settlements. Some of the old sailors of Kotta heard of his exploits and rallied round him. In 1618, he had five war-paroes, fully armed and well-manned by sailors drawn from the Konkan and Kerala coast. His exploits caused a general flare-up of naval activity along the coast. In these operations Indian seamen received assistance from the Dutch who had now begun their offensive against the Portuguese. The chiefs of the coast also helped them in return for a share of the booty.

The Portuguese were now forced to send their ships out only in convoys, known as cafilas, consisting of 300 or 400 vessels. But the " pirates " always succeeded in capturing a number of their ships and even blockaded Goa for two long months. Portuguese navigation was made risky and profitless, and brought almost to an end. " I have seen ", says Pyrard, " the Malabar corsairs seize as many ships as they like, and at one swoop capture as many as forty or fifty of them. And that was no uncommon occurence ".

Faria gives the following account of Don Pedro's further exploits :

In the year 1618, "while our Admiral of the Malabar sea was upon the coast, Don pedro, commanding five paroes, took several of our ships and hindered the trade. Our General, Don Constantine de Sa sent from colombo forty galliots to Manar to join eighteen small vessels there to destroy the pirate. They set out on the Eve of Ascension, and being parted by a storm, met on the 18th at the Island of Golayo. While the Portuguese were seeking him, Don Pedro made a lightning swoop on a squadron of 18 Portuguese vessels and took 12 ships and around 300 prisoners including Captain Victorio de Abrew who was sent out to find him.

After this amazing exploit we hear more of him from the same source :

" Meanwhile, our squadron convoyed the fleet after such a manner that the same pirate took a vessel without their offering to defend it ". This is another way of saying that Don Pedro, with only five paroes, attacked a whole fleet under convoy and managed to make a prize.

This man, later, sailed away to Maldives and no more is heard of him.

Portuguese naval power had already received a death blow, though their ships sailed for a few more decades. From 1498 to 1630, our seamen struck and struck again, sometimes vanquished, soon revived, incessently fighting mingling their blood with the brine, to keep the pirates away and defend our land. But for the resolute defiance of the Zamorins and their valiant Moplah seamen, Goa might have extended along the littoral to cape Kanya Kumari and our country's history would have taken a different course.

KANHOJI ANGREY

CHAPTER V

The Indian Ocean was a disturbed area during the 16th, 17th and 18th centuries. European powers were in keen rivalry for Indian trade and Indian powers were at war among themselves. During this troubled period Maharashtra produced two outstanding leaders, Sivaji, the Great and the Maratha admiral, Kanhoji Angrey.

When the Marathas rose to power under Sivaji in the 17th century, there was a general revival of seafearing along the Konkan coast. Sivaji himself was a poor sailor, for we learn that he had to give up his naval expedition against the Raja of Karwar because of 'extreme sea sickness'. But he recognised the importance of a strong naval arm and built a large fleet and a chain of coastal forts. The immediate reason was the continual threat to his kingdom from the Siddis of Janjira* who had a naval stronghold in the island of Janjira near Thana, and subjected the Konkan coast to frequent harassment. In 1648, Sivaji attacked the Siddis and occupied one of their forts, starting a long war. As the Siddi Chief, nominally a vassal of the king of Bijapur, got no help from his master, he convenienty shifted loyalty to the Moguls, betrayed the Bijapur ships, hoping to be made Commander of the Mogul fleet with the

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*** At the time of his coronation (1647) Sivaji had an estimated 57 warships, besides a large number of smaller ships and 5000 sailors. His shipbuilding yards were busy building ships of all description. He sent out his fleet frequently on cruises along the coast to 'show the flag'—a warning alike European pirates and rival European merchant sailors.**

My sources for this essay are *Kanhoji Angrey — Maratha Admiral* by Manohar Malgonkar (Asia) and A History of the Maratha Navy and Merchant Ships by Dr. B. K. Apte. I acknowledge my indebtedness to them.

rank and title of Yakoot Khan. The title was about all he got for the Mogul asked him to provide his own vessels. At this time, there were European merchants and pirates infesting the seas who had to be kept in check. A strong navy guarding his coast would leave Sivaji free to grapple with his major enemy the Grand Mogul, undistracted. Sivaji ordered the construction of a large number of ships and built 13 new forts along the coast. In 1679 he took over the islands of Khanderi and Colaba close to Bombay, where the growing strength of the English posed a threat to his realm.

Originally Moslem traders from Abyssynia, the Siddis were professional African sailors who took service under the rulers of the Deccan. The first Siddi was an Abssynian adventurer who came to the chief of the island fortress of Janjira in the welcome guise of a merchant. The merchant got permission to land three hundred boxes of merchandise which the chief's men carried into the fortress. At night, armed soldiers came out of the boxes and took the fort by the meanest treachery. In course of time the Siddi chief was engaged by the Moslem king of Bijapur as his naval commander. By the middle of the 17th century the Siddis established a minor semi-independent chieftaincy and developed the port of Danda Rajpur. Later, taking advantage of the difficulties of the King of Bijapur, the Siddi chief shook himself free of the overlord. The Marathas found the Siddis a nuisance and constantly fought them on land and sea.

It is a curious fact, generally passed over by historians, that there were many Maratha soldiers and civilians in Siddi service in spite of the fact that the Marathas and Siddis were constantly at war. A century earlier, there was an even more curious instance. The orthodox Hindu Zamorins (kings) of Calicut, according to W. Logan's account (*A Malabar Manual*), allowed the conversion of a number of Hindu families of the fisher-folk caste to Islam in order to get adequate numbers of sailors for his navy in his prolonged war with the Portuguese. The Zamorin had to take this roundabout course to get over the caste tabu which would not allow castes to change their customary occupations. Caste and profession could not be separated in the hard-set Hindu socio-economic arrangement without serious dislocation. Conversion to a religion which did not recognise the tabu made matters a lot easier for the fisher-folk to change over to the fighting profession.

The Maratha navy was commanded and officered by Siddi Moslems, only the sailors were Konkan fisherfolk till the appointment of Kanhoji Angrey, who began taking into his service any good sailor he could get, Moslem, Christan, Hindu, European, Arab or Persian.

In those days risks from piracy were so great that merchant ships had to sail under strong convoys. The East India Company rewarded captains of ships brought safe to port with rich gifts and a princely welcome. The Arabian sea was unsafe.

The hero of several legends, Kanhoji Angrey, Admiral of the Marathas, was the most outstanding naval genius of this dark period. It is strange that till recently few have heard of him and his daring exploits. English records mention him with bated breath as a "dangerous pyrat" who took a heavy toll of their ships and very nearly ruined their trade. They did everything they could to destory him, all in vain.

When King Sivaji died in 1682, Angrey was 11 years old. His father. Tukoji Angrey was an officer under Sivaji's father, Shahaji, who was himself commander of a squadron of the King of Bijapur. Tukoji had fought a naval action against the Portuguese at Chawl and later, entering Sivaji's service, against the Siddis. Sivaji made him the deputy Commander of Suvarna Durga, a coastal fortress which always remained an Angrey stronghold.

Kanhoji had several narrow escapes when, as a youth, he led raids into Siddi territory. He learnt his first naval lesson what not to do when he saw thirty closely packed Maratha ships make a fatal frontal attack against Siddi vessels on the Thana river much in the manner of the famous Maratha cavalry charge and fall into a deadly Siddi trap to take a sound beating. Kanhoji escaped. He knew that war on the seas required different strategies, After Sivaji's death, the Moguls renewed their war in the Deccan. Bijapur was weak and the Marathas disorganised. The Moguls captured fort after fort while the Siddis terrorised the coast and laid siege to Swarnadurga. Unable to take the fort by assault, the Siddis bribed the fort commander to surrender the fort. While secret negotiations were going on, Kanhoji Angrey, scenting danger, seized command of the fort by a midnight coup. Next he led an attack on the Siddi island in an attempt to lift the siege. He was captured, but he managed to escape and swam across the channel back to his fort. Thereafter, Angrey went on the defensive and wore out the Siddis till the monsoon rains forced the enemy to retire. The grateful Maratha king, Shambhaji, gave him command of the fort and the duty of protecting the coast.

When king Shambhaji was cruelly murdered by Aurangazebe's orders, the disuntied Marathas, shocked into a semblance of unity, revolted and resumed their war against the Moguls under their new King Rajaram. Rajaram made Kanhoji Angrey the ***Surkhail*** or the grand Admiral of the Maratha fleet. It is a curious fact that the Maratha fleet of Shambhaji was till then under the command of a Siddi Moslem named Misri and the senior officers were Moslems. Only the sailors were Konkans.

Angrey repaired old forts, built new ones and undertook the building of a fleet of forty assorted vessels with adequate gun power. Besides the Siddis, the English entrenched in Bombay and Surat, clashed with him on the seas. The English imposed taxes on all shipping and on the trade in salt, compelling native and foreign ships to take out their passes. If a ship did not carry their passes, the penalty was confiscation of the vessel and its cargo. Two of Angrey's salt ships were confiscated by the English and Angrey retaliated by issuing his own permits (dastaks) and began seizing ships found sailing without them. The English lost a few of their ships to Angrey in several encounters and started calling Angrey "a Pyrat".

As a matter of fact, it was the Hon'ble East India Company and its English rival company that were actually engaged in piratical activities in Indian waters. Captain Henry Every, commanding a ship belonging to the rival East India Company had the insolence to capture the Mogul emperor Aurangazebe's pilgrim ship, *Ganj-Sawai,* and hold to ransom the crew and passengers among whom there was a princess of the royal household. Dreaded European pirates, Kidd, John Hand, Bridgeman and some lesser fry prowled around ports and shipping lanes to seize and plunder merchant ships. Pirates and merchants bought Indian slaves cheap (Rs. 10 per head) and sold them to American plantations for huge profits. There were native pirates too who preyed on dhows and dhingies of the smaller merchants or raided sleeping villages. No wonder that the East India Company had to spend annually a million pounds to fight piracy and send their ships in convoys.

When king Rajaram died in 1700, in-fight developed in the Maratha camp. Sahu, the new Maratha king allowed Angrey a free hand in his fight with the English. After the death of Aurangezebe, the Siddi chief, nominally the Mogul Admiral, found no advantage in antagonising the Marathas and left Angrey free to settle his score with the English. He captured every European ship that did not carry his pass.

Angrey owed his success to the wolf-pack tactics he used› hanging on to the tail of the enemy convoy to fall upon stragglers. When attacking better-armed European ships he kept well astern of his enemy. His fast gallivats formed the vanguard. The slow moving heavy *Gharubs* came in the rear. In battle, Angrey immobilised the enemy ships by shooting down the rigging and gave covering fire to the boarding party. When the contest went against him he would bring his vessels in shore under the protection of his coastal battery. Angrey's most tempting prize was the annual Portuguese Armado which carried home an immense treasure in species and cargo—a whole year's accumulation of oriental plunder.

On two earlier occasions, Angrey had made successful attacks on Portugues convoys. In 1713, the Portuguese made their plans to trap and destroy Angrey's ships. Trailing two small vessels as stragglers behind the convoy, they decoyed Angrey into action. The convoy circled back and closed round on Angrey's gallivats and Angrey had to fight a two days battle to escape, thoroughly battered and beaten. Back again next month, he had the hardihood to attack a Portuguese man-of-war mounting 34 guns. Again he was repulsed with heavy loss. The Portuguese followed up their victory by sending an expedition to Colaba to finish Angrey once and for all. Angrey drew up his ships far inland beyond enemy cannon range and went on the defensive. The Portuguese tried to draw the Siddi into the fray against Angrey, but the Siddi took his time to make up his mind, and when finally he had made up his mind and invested Colaba the Portuguese, alarmed by the news of the menace of Arab pirates before Salsette, withdrew hastily, leaving the Siddi to disengage himself with dignity and come to terms with Angrey.

Angrey was determined to see that the English respected his passes. He resented the English practice of flying the English flag on native and other vessels to claim the immunities which, by an earlier agreement, he had granted to the Company's ships. The English, on their part, made elaborate plans to destory Angrey.

* * * *

In 1718, Mr. Charles Boone, the East India Company's Governor at Bombay, a born fighter and a born loser, had his plans ready for an attack on Angrey. He had built a wall round Bombay and added several Indian-built ships to his squadron. The expenses were met out of a tax levied on the citizens of Bombay and forced contribution from merchants. Boone had been two years making his preparations and felt he was now ready. He would go forth and take Angrey's forts, first Gheria, and next Khanderi, and then the rest of the forts one after the other.

By way of flexing his sinews his squadron made an unprovoked attack on the Dutch-held island of Vengurla and sent out a landing party which did not land as a result of quarrels among the officers. The expedition returned to Bombay, a dismal failure.

As a further warming-up exercise and morale-restorer, Boone ordered his ships against Karwar. The petty Raja of Karwar, insulted beyond endurance by the company's factor, had laid siege to the English factory in his port. After a preliminary bombardment, the English landing party made a landing, but was promptly driven back to the boats by the Raja's men. Boone lost over 250 men in this operation. The toll would have been far greater, if the Raja's men had not swum out and saved the English soldiers from drowning, when the landing crafts capsized during the panicky retreat. The sqadron returned crestfallen to Bombay after this quixotic exploit.

Governer Boone waited for the next rainy season when Angrey's ships would be gathered together at their monsoon depot at Gheria. He had bribed into his service a Portuguese officer who had formerly served Angrey as a naval adviser and knew whatever there was to be known about Angrey's strength and strategy. Boone chose to strike when Angrey was away and the Gheria garrison was only half its strength. He had 2500 men and 14 good ships of which six were major warships.

Boone planned a surprise attack and made no formal declaration of war. He had a fireship which he would send against Angrey's ships in their monsoon mooring and make a bonfire of the whole fleet at one stroke without having to fight a tedious battle.

The English squadron set out on June 9, 1719. The attack on Gheria began the next day with heavy bombardment. The fireship sailed on course and came up against a boom and did no execution. A landing party made a landing but was stopped by a bog. The party retreated to the boats under heavy fire from the fort. The expedition returned to Bomay on 18th June in poor spirits.

Five months later, Governor Boone sent another force, a squadron of 20 ships and nearly 2000men against Angrey's island fort at Khanderi, ten miles distant from Bombay. The troops made a landing but were driven back. A second party, mustered by bribes and threats, was sent out but their boats could not make the shore because of adverse tides and currents. To add to their troubles, two gallivats commanded by a Portuguese renegade, Manuel de Castro, ran aground within range of the fort guns and got shot to pieces. Finally, when a landing was made one of the English captains threw down his sword and fled. Another officer injured by the ricochette of a shot fired from his own pistol, ordered a retreat.

Governor Boone on board his flagship *Addison* witnessed the debacle. After demonstrating his fighting spirit by firing a number of shots against the fort and exhausting his ammunition, he returned to Bombay, speeded on his voyage back by reports of a squadron of Angrey sailing in search of him. Back in Bombay, Governor Boone needed a scapegoat, and looking around, found one in Manuel de Castro and another in the captain who had thrown down his sword and fled. The latter was stripped of his badges of rank and his sword was ceremonially broken at a parade. Castro was sent to St. Helena loaded with chains. The Governor, thereafter, caught hold of a wealthy Hindu merchant of Bombay named Rama Kamathi, and charged him with treason for being in league with Angrey. With letters skilfully forged and witnesses suitably bribed and adequately tortured, the charges were proved and Kamathi, found guilty had to spend the rest of his life in the Company's prison.

Boone once again taxed the people of Bombay to raise funds for his next attack on Angrey. A few more ships were got ready, and on the advice of an engineer, he ordered the construction of a novel assault vessel called *Phram* (a Dutch word for a flat bottomed barge fitted as a floating battery). Boone had another secret weapon called "Captain Johnson's machine", advertised as the ultimate in destructive weaponry. None ever saw it or knew what it was. It just did not exit. Boone awaited the arrival of a squadron of good English fighting ships to add to his strength.

Angrey did not remain idle. He filled Bombay with spies to find out where the English proposed to strike. He made diplomatic moves. He returned a few captured vessels to the Mogul to spoil Boone's plans of securing Mogul support to his designs. The Siddi had nothing to gain by joining the English. Angrey was on his best behaviour with the Portuguese when he learnt that the English were attempting to woo them to their side. What really worried him was the constant infight among the Maharattas.

Boone appointed one Mr. Walter Brown, a senior clerk of the Company, as Commander-in-chief of the English fleet. To give him self-assurance he was given the rank of an admiral. On the 13th September, 1720 the expedition set out. There were two major warships, each of 40 guns, four ships of 16-26 guns and a variety of other vessels and the terror ship Phram towed by three ships. The science-fiction Captain ***Johnson's Machine*** was not much in evidence. Admiral Walter Brown sailed in his flagship, ***London.***

Standing off Gheria, Admiral Brown began the customary bombardment before landing a body of soldiers who were promptly chased back to their boats by the defenders.

When Phram arrived, the English were in high spirits. Towed into position, it began to fire when it was found that the shots fell hardly thirty yards from the ship. The gun slits were cut too low and the platform was too high. The Phram was promptly withdrawn for rectification. The morale of the attackers sagged. While the next step was being decided the officers and men got heavily drunk on arrack and quarrelled among themselves. Whether a second landing party of nearly two hundred men mustered with great difficulty made a landing is not known. The rectified Phram returned to action. A gun burst while firing the first shot killing and mangling almost half the Phram's crew and another shot went wildly astray and damaged one of the English ships that happencd to be near.

"Excessive drinking and no manner of command carried out" was Browne's report on the expedition. Browne did not quite know what he was to do next. In his perplexity the Savant of Wadi sent a request to Browne proposing a joint attack on Angrey's fort of Deogad. Without waiting to hear Governor Boone's views, Browne sent off some of his ships to join the Savants forces. He decided to continue the fight to the bitter end, but his council of war rejected the idea of another attack on Gheria. The ships sent to Deogad returned, as the Savant's forces were nowhere to be found, and fired some shots at the fort to justify the voyage.

Browne decided to return to Bombay and set sail on 21st October 1720. What happened on the return voyage was a comedy of errors. Seeing two grim looking ships of a notorious pirate named England, Browne took fright and fled. The pirate ships, on their part, frightened by the sight of a powerful squadron armed to the teeth put on all sails to escape. The two frightened men running away from each other, ran into each other by a quirk of chance or weather. To add to the confusion, there were two ships of the same name, Victory, one belonging to the pirate and other in Browne's squadron. In the morning mist Browne hailed a ship he saw looming ahead and the ship gave its name as Victory. He approached her in the mistaken belief that it was one of his ships. The pilot opened fire in self-defence and fled, leaving his prizes. Caught in a similar panic, Browne's ships stopped firing and prepared to get away as fast as they could. Browne abandoned the Phram as it slowed down his flight, and detailed one of his ships to fall back and engage the pirate, if he came in pursuit. After an agonising voyage of two days, Browne reached Goa, safe but shaken.

Governer Boone who had by now heard of Admiral Browne's retreat ordered him "to seek and destroy the pirates". Browne knew better. He made quickly for Bombay and safety. Boone, fearing public ridicule and the Board of Director' rebuke, decided to hide the truth. So, he organised a grand victory parade in Bombay to honour the war heroes and the citizens had to pay a fresh tax for this festival. The Board, however, knew the truth and sent out a squadron of the English navy to help the Company out of its difficulties.

Governer Boone wanted one more chance, but his successor Mr. William Phipps had arrived to take over. Boone delayed to vacate his office. To make sure he won this time he persuaded the new Portuguese Viceroy of Goa to join him. After some hesitation the Viceroy agreed. In the meanwhile, a squadron of the English navy arrived under Commodore Thomas Mathews. The Governer could now crush Angrey before taking leave of India.

The Governor and the Commodore, both equally proud and stubborn, started a dispute over protocol, each insisting that the other should give a gun salute. The dispute was not settled and no salute was given by either.

Angrey made an attempt to break tha Anglo-Portuguese alliance. Failing in the attempt, he sent an appeal to his king Shahu for reinforcement. The king despatched a strong detachment of cavalry and promised to send a contingent of the Maratha army.

Angrey's spies in Bombay brought him intelligence that the objective of the allies was the capture of Colaba and that a large army was ready to attack the fort. Commodore Mathews was to attack Colaba from the sea with his squadron. Angrey made his plans. He would strike to prevent the Anglo-Portuguese armies making a junction. He divided his forces and sent them, one against the English and the other to engage the Portuguese. Flying columns of elusive Maratha cavalry were ordered to keep attacking the enemy in the rear.

Commodore Mathews had a few fire ships, but he did not use them to any advantage. After a preliminary shelling, the guns went cold. On the 24th December, the English attacked the fort without success. Later in the day, the Portuguese formed up for an assault. Angrey quickly sent a strong cavalry detachment to deal with them.

1500 horse with the veteran Pilaji Jadhav at the head thundered on the Portuguese already somewhat demoralised by the failure of the English assault. The Portuguese stood stunned for a while, then panic seized them and they ran. Another party went out from the fort and chased the English to their boats, making terrible slaughter. Commodore Mathews who watched the rout from his flagship *Lion,* could do nothing. Boiling with rage, he accused the Portuguese of treachery. Thereafter, the Portuguse lost interest in the fight. When it became known that Angrey had reeeived strong reinforcement from his king, the allied army was ready for peace talks. So, the English attack on Colaba too was a failure. The English returned to Bombay on 28th

December, 1722, having suffered much loss.

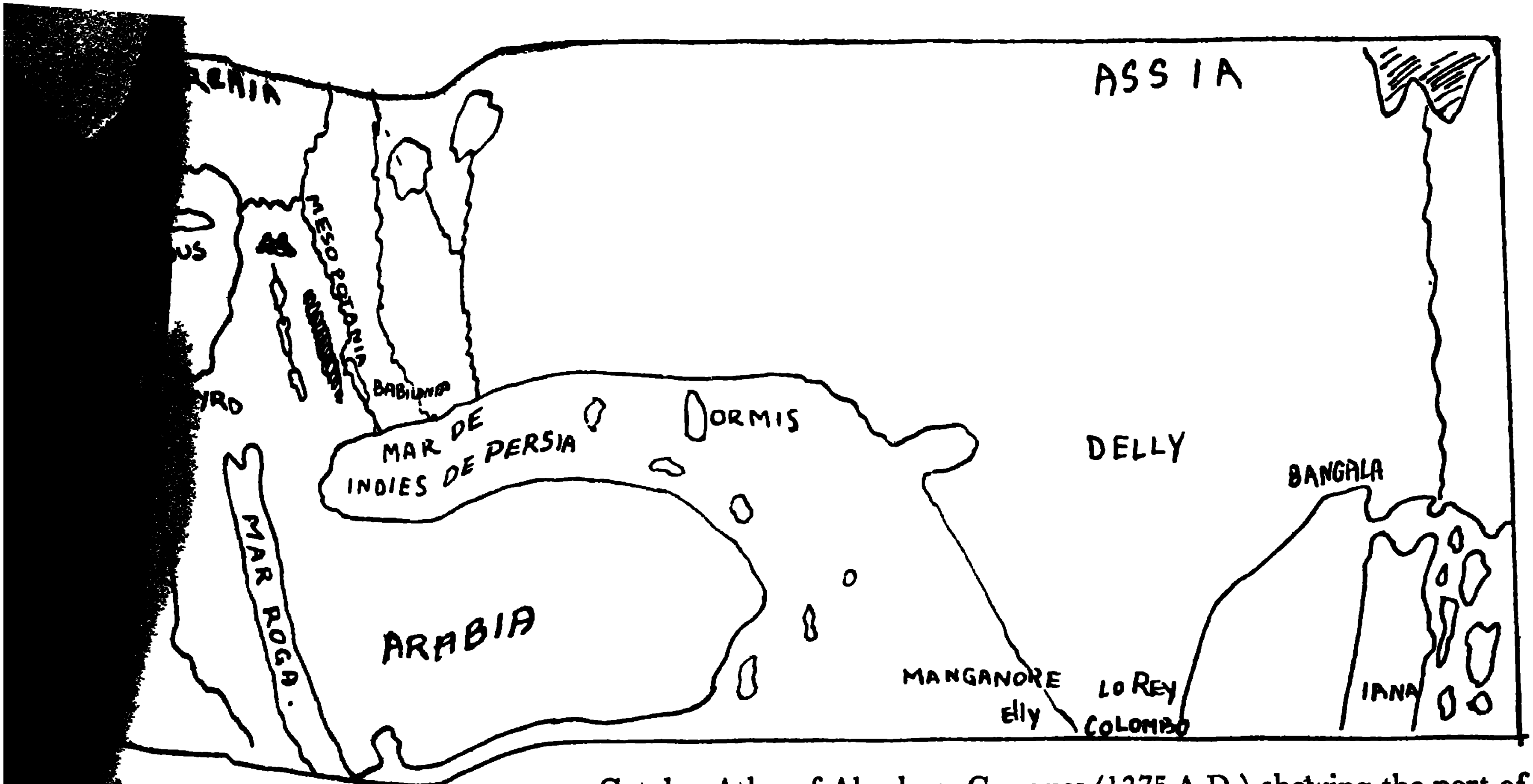
Charles Boone left Bombay in January 1723, all ships in the bay firing their guns in salute to speed him on his way, except those of Commodore Mathew's squadron.

The story of Maratha navy after Kanhoji Angrey is soon told. Plagued by dissension, Maratha political power weakened while the English grew strong on land and sea. Even so, the Angrey tradition continued to shed a dying glow on the Arabian Sea, till Gheria, the Angrey stronghold, was reduced by a well-equipped English expedition under Admiral Watson and Col. Clive on the 13th February, 1756.

KARNATAKA NAVY

CHAPTER·VI

The history of coastal Karnataka's seafaring has upto now remained largely a neglected field of research. We have evidence of Karnataka's links with Egypt during the reign of the Ptolemies and the existence at Memphis of a South Indian colony which, as far as can be ascertained, was a Kannadiga trade settlement. There are large gaps in our knowledge of Kannadiga seafaring. Occasionally we come across a major event like the Chalukyan naval expedition against the kingdom of Orissa when a grand invading fleet sailed down the west coast of India, rounded the Cape and proceeded north to attack and conquer the Orissan capitol of Puri. A major naval operation of this nature involving transport of large numbers of elephants, horses, troops and equipment would have been unthinkable, if there had not been a flourishing shipbuilding industry and a long tradition of seafaring behind it. In the famous 8-page world atlas known as the Catalan map drawn by Abraham Cresques in 1375, the Port of Mangalore is clearly shown, though spelt Manganore. Obviously the port enjoyed consderable importance even then. When Marco Polo passed this way in the 13th century, he observed piracy rampant along the coast—a symptom of feeble control over seafaring during periods of political weakness. During the Vijayanagar period the major preoccupation of the kings was peninsular. Sea-trade and seafaring passed largely into the hands of the Arabs, the Moslem rulers of coastal Deccan, and in some measure to the smaller independent or semi-independent rulers of the South and North Kanara coastland. These smaller rulers had their navy and shipbuilding yards where they built a variety of crafts of lesser tonnage, mainly for coastal navigation. When the Portuguese



An old map of Asia from the 8-page Catalan Atlas of Abraham Cresques (1375 A.D.) showing the port of Mangalore. The decorations have been removed and only the more important place names have been retained.

came here, they described Bhatkal as "a great port exporting rice, iron and sugar to all parts of India". Honavar, Mangalore and Karwar are also mentioned as important trading ports of the Karnataka Coast.

We hear of a few principalities along the Karanataka Coast, fragments of a once powerful Chalukyan Kingdom which had their own vessels for trade and war. The King of Bijapur, the Rani of Ullal, the Chowta Raja of Mangalore and the Raja of Karwar, the Governor of Bhatkal etc, some of them in loose feudal relation with imperial Vijayanagar, are mentioned in the records left by foreigners. Besides these rulers, there were others deseribed by Europeans as pirates, all of whom, in their own way, kept the continuity of an ancient seafaring tradition.

The last spurt of Karnataka's maritime activity of which we have reliable documents was under Hyder Ali Khan and Tippu Sultan—a belated attempt to check the English domination of the sea. Reliance on the French to fight Karanataka's naval wars against the English proved fatal for Hyder Ali and Tippu Sultan. They found it necessary to develop a navy of their own to cope with the ever-growing naval strength of the English. It was a desparate effort, the tragic story of always too little and too late. The following are excerpts from my essay ***Mysore Navy*** published originally in ***Mysore University Journal*** (1947) reproduced here.

The fact that Karnataka had a considerable and well-organised navy as recently as in the days of Hyder Ali and Tippu Sultan is not generally known even to the people of Karnataka State. In the 18th century, Karnataka had a large fleet of merchantmen and frigates, a vast flotilla of coastal boats or manjuas, several ports and dock-yards and at least three ship-building yards employing shipwrights drawn from different nations. There was also a naval school to train the ship's officers and men. Tippu Sultan personally interviewed the officers after completion of their training and gave them their commission in full Durbar.

Hyder Ali had originally intended to build only a large merchant fleet. His battles were fought on land and he counted on the ships of his French ally to engage the English on the seas. It did not take Hyder Ali long to realise the importance of self-reliance and he busied himself to build a strong naval arm essential for gaining and retaining mastery over land.

" I can beat the English on the land, but I cannot dry up the sea " said Hyder Ali in despair, alarmed by the exasperating ease with which the English got large reinforcement from abroad and the rapidity with which they transported men and material from place to place in their fleet.

The need for strengthening and arming the fleet was recognised by Tippu Sultan but too late. A few years prior to his fall he exerted himself furiously to build a fleet of a hundred ships. This, however, could not be accomplished because of the heavy loss of coastal territory at the conclusion of the 3rd Mysore War when Malabar was ceded to the English. The Canara ports alone remained in his hands, where he had already the ship-building yards and other naval establishments of Mangalore, Bhatkal and Honavar. He looked to France and Le Reunion for naval help. Nothing came of it. For all his pains and expense, the Sultan had the dubious consolation of being toasted as "Citizen Tippoo" at the Jacobin Club at Seringapatam and of a letter from Napoleon Bounaparte, valuable only to autograph - hunters. The 4th Mysore War ended in Tippu's downfall and the loss of the remaining coastal strip of Canara with all its ports and shipping. The Mysore navy was afloat and active for over a quarter of a century and her ships were in service on a regular schedule sailing between the ports of the West Coast and those of the Persian Gulf. To the East, Mysore ships sailed on at least three recorded occasions as far as Pegu and on one of these voyages, a ship carried an embassy to the King of Pegu.

When Mysore ceased to have a seaboard her navy ceased to be.

* * * *

When Hyder Ali annexed the territory of the Raja of Bedanur the rich ports and shipping of the Canara coast fell into his hands. He made preparations to build dock yards and naval arsenal and gathered ship-wrights to build large ships like those of the English.

He wanted an Admiral. He looked around. There was Luft Ali Beg, a veteran officer of the cavalry, never so happy as when on horse back and charging on the enemy. To the great annoyance of that excellent horseman, Hyder Ali named named him the Lord High Admiral and to his further dismay, the Navab gave him the duties of naval engineering to perform.

The scene of Luft Ali Beg's activities was the Western Sea and it was not safe.

After the fall of Portuguese power, the chief European actors in the struggle for pepper monopoly on the west coast were the English, the French and Dutch. They had their factories or settlements along the coast and they fully exploited the dissensions of the inumerable petty Chieftains and Rajas of the coast. The Moors who, prior to the arrival of the Portuguese, had been the chief seafaring population, long settled on the coast, had turned to piracy led by Ali Raja of Cannanore. European mercantile rivalry added to the dangers of the sea. The English and the French assisted whichever native Raja gave them more favourable terms, trading muskets and gun-powder for pepper monoplies—a pattern still continued by western powers in their political dealings with under-developed nations.

In 1768 war broke out between Hyder Ali and the English on the East Coast and it had its repercussion on the Malabar and Canara Coast. To aid the operations on the East Coast, a naval expedition under Messres. Govin and Watson was despatched in February 1768 from Bombay with orders "to take or destroy Hyder Ali's fleet". The expedition was poorly equipped and led. On reaching Honavar it slowly dawned on the understanding of the two captains that there was such a thing as the surf of Mangalore to cross and that they needed more boats. Accordingly, they applied to Tellichery. This is what the English records tell us. The real fact was that the English captains were intimidated by the presence of one of Hyder's well armed frigates, ***Buckingham*** which Mysoreans had previousaly captured from the English in a naval encounter off Mangalore. Mr. Sibbald, Company's factor at Honavar, however, had a better plan and what could not be achieved by naval prowess, he gained by craft. He bribed Captain Stanet, the English Commander of Hyder's squadron in Mangalore, to betray the ships. Stanet came over with one three-mast grab, one two-mast grab and five gallivats, totalling pretty nearly all Hyder's shipping in the harbour. In Mangalore, the expedition took the ***Buckingham*** and another three-mast garb. Thereafter, Mangalore was easily taken.

Mangalore, Calicut and Honavar were Hyder's main ports where the bulk of his shipping was kept in readiness for engagements along the coast. In 1776 Hyder Ali had a fleet of one three-mast ship, six two-mast grabs and twenty well-armed gallivats at Calicut. These were meant for use against Travencore and Cochin and it was his design to carry his men and material to the Island of Vypeen past Cranganore, a Dutch port, in these vessels. This fleet, however, did nothing meritorious. When the Dutch fleet was sighted, it withdrew.

In the seventies of the 18th century, Hyder Ali developed the port of Mahe and attached great importance to it, for he got his reinforcements of guns and ammunition from the French vessels which put in there. As soon as Pondichery fell, the English attacked Mahe with a fleet consisting of ***the Terrible (bomb-ketch) Asia,*** man - of - war and ***Sea Horse, Coventry, Resolution*** and ***Royal Charlotte.*** Col. Braithwaite led the operations and succeeded in capturing Mahe whose Governor, M. Picot, after a gallant defence, asked for terms.

Towards the close of his career Hyder Ali had admitted the superiority of the English on the sea. "I can beat the English in every battle on the land, but how can I dry up the sea" ? he had declared. We have seen how, in all the operations, whether on the West Coast or in the Coromandal, the English transported their men and material with ease from point to point, because they had a strong fleet. Hyder Ali was not able to develop his naval arm to any appreciable extent. His fleet served largely as transport.

Even Tippu Sultan did not pay any attention to the development of the fleet till very late, when the shadow of his doom had already fallen on him. It was only after 1792 that we find him making a frantic but belated effort to raise a navy.

He introduced new naval regulations. The fleet was originally placed by Tippu under the Board of Trade. It was not originally meant for combat purpose. It was chiefly meant to protect the trade and for use against pirates. Till 1793 he had not done much towards the fulfilment of his dream of naval power. He needed a strong navy, capable of combat.

In 1793 he ordered the construction of a hundred ships, but failing resources, reduced the figure in 1796, to twenty ships-of-the-line and twenty frigates. His naval organsation was in general modelled on the English, but there were a few innovations. He had asked the vakeels who accompanied the princely hostages to Madras in 1792 to study the English military and naval institutions. He had Lords of the Admiralty called Meer-e-Yems, who were not expected to be afloat. Under them were Meer Buhr, or Admirals, thirty in number. Of these, twenty were to be afloat and ten were to remain at the Court for consultation and perhaps for ornamental purposes. He also established a naval school and dockyard.

The gun-power of the different classes of Tippu Sultan's ships varied widely and probably this was again the Sultan's whim. Thus a 72-gun ship had thirty 24-pounders, thirty 18-pounders and twelve nines; a 46-gun frigate had twenty 12-pounders and twenty nines and six 4-pounders. The line-of-battle ships had 72 guns and the total naval personnel for the forty ships was 10,520. To each ship were appointed four principal officers. The first officer commanded the ship, the second had charge of the guns, gunners and ammunition, the third had command over the marines and the small arms, while the fourth looked after the general working and navigation of the ship, its provision and stores. The regulation covers every small particular, from the dockyard management to the running-rigging, from the scantling of the timbers to the dinner of the crew.

The Sultan realised that the navy and commerce were interdependent and he busied himself in developing the maritime trade of his ports. He established warehouses in Jeddah, Muscat, and the ports of Kutch and Navanagar, and appointed consuls in those places. The chief commodities exported were rice, sandal and pepper, while the imports were war - material, raw or finished sulphur, copper and horses. Luxury items like pearls, rubies and silks also claimed his attention.

Just two years prior to the extinction of his power he issued a "Regulation to the Marine Department". He had conceived the idea of creating a great naval force with Mangalore and Bhatkal as the bases. We find Tipu writing to his Consul at Muscat asking him "to get a hundred lascars under four commanders and also ten shipwrights". Again in September, 1796 he writes to Mir Ghulam Hussain, Darogha of the Fleet, asking him to hasten with the work of building the forty ships he needed urgently. "The ships are to be equipped with the utmost despatch ".

The following instructions were issued to the Mir - e- Yem (25-3-1793 and 2-4-1794) :—

(1) "You must set about building 100 ships of war. In the meanwhile, 10 sails, completely manned and equipped with warlike stores, have been placed under your orders.

(2) It is expected that you will exert yourself to collect together as many trusty men experienced in naval warfare as may be procurable, as well as others conversant with the affairs of trade.

(3) If the necessary war-like stores should not be procurable for money or at market, the same is to be represented to the presence, when we will direct you to be supplied with such articles. etc."

The Sultan always refers to his navy as the Armada, a word which seems to denote a fleet of considerable strength. But we have no information about the part played by this fleet in the battle of partition in 1792.

Another regulation, issued in September 1796, dealt with the reorgainsation of the Navy's officers. By 1796, Tipu's naval programme had been reduced to forty ships which were to be in three divisions, Mangalore command to be in charge of 12 ships while Wajidebad and Majidabad were to have 14 each. The vessels were to be built at Mangalore. The Board of Admiralty was furnished with the model of a ship of war. All the ships were to be coppered. Besides, he planned to build ten battleships of 72 guns each and ten of 62 guns each. The officers had to take instruction at Headquarters. The staff of a battle ship consisted of musketeers, gunners, teepdars, etc., apart from the Sirdar, assistants and the pilot. Medical assistance was given by a surgeon and a physician on board. The total establishment of a battleship cost 4,905 rupees a month. It had 346 men of all denomination on board. Each frigate was manned by 180 men maintained at a cost of 1,695 Rupees per month. The total expenses of all the ships and frigates was calculated at £ 182,400 sterling per year. The Sultan abolished all distinction between the ranks with regard to food rations.

There was a sort of naval training school to train the men in their respective duties. Twelve small vessels, called Nugs, were delivered in charge of the Meer-e-Yems. These were used for practice in navigation.

The men recruited for service were to receive their commission, after being sworn, from the Sultan at Seringapatam. How important was the navy in the Sultan's estimation may be inferred from the fact that decision to employ the fleet against an enemy was made in full council.

Indian ships of teak were more seaworthy than ships of oak. The Sultan exercised a monopoly on teaks in his Canara and Malabar territories and the timber was floated down the rivers to the yards during the monsoon season. Buchanan mentions in his ***Travels through Canara and Malabar***, how 10,000 logs of teak were floated down the Vayapura river at Ponnani port just before the collapse of Tipu.

The ships of the Mysore fleet, when unemployed, were harboured in Tidry, a small port on the Canara seaboard.

The Sultan was a good merchant but his excessive thrift and monopolistic tendencies greatly reduced the volume of his business. Having secured the important ports of the West Coast, and the pepper and rice producing tracts, he had a real advantage. He wrote to his trade agents frequently. One of the letters written to Mir Kasim, trade-agent in Muscat, (17th November 1785), is particularly revealing. He writes to him "not to be in a hurry to sell the cinnamon, sandalwood, black pepper and rice imported at Muscat from Mangalore and Bhatkal and Khusalpur" and orders him "to keep them carefully till they become dear and will yield good profits (lit. to heart's content) and then sell them". The agent is asked to keep on trade relations with *Juzeerh Deeruz* (Long Island) in the Persian Gulf, famous for "its silk worms and their eggs." The Sultan was anxious to import these silk worms to the country. "Procure some of both (silk worms and their eggs) and despatch them to the presence", wrote he, "with five or six men who are acquainted with the proper mode of their rearing". The thrifty Sultan did not forget to add, "They should not be paid more than 6 rupees."

The rice ships which went to Muscat returned with horses and certain articles of value to Tipoo's army, such as copper, sulphur and raisins and almonds to Mangalore or Bhatkal.

In 1788, the Sultan busied himself in establishing a monpoly on all goods exported from Malabar and for this purpose established factories at Mahe, Calicut and Quailandy. Because the profits of the Sultan were pitched at a high percentage, from 75 to 125 per cent, traders preferred to deal with the English, the French and the Dutch.

The Sultan relaxed port duties (Rs. 40 per dinghy) to help a few favourite marchants. We hear of one Mao Sett to whom the Sultan gave a remission of "four-tenths of the customary duties levied from time immemorial."

But Mao Sett, "that refuge of commerce", as the Sultan metaphorically described him, found the concession in no way advantageous to him. He was bound to buy all the Government rice "of whatever quality" at a price fixed by the Sirkar, ***before he could buy anything from private merchants.***

Complaints made by Mao to the Sultan about the quality of rice supplied by the Amils of Managalore and Bhatkal brought forth only a sharp rebuke. Here is a sample. "You write—the Amil of Mangalore delivers to you only old and black rice. It is known. That rice is good. You must take it and not engage in improper altercation. What more shall we write? "

On the whole, "that refuge of commerce" did not find the Sultan's favour helpful for he, soon after, left for Kutch giving the Sultan's ports a wide berth, Another favoured party was the Imam of Muscat, who was given a fifty per cent remission on port duties. "Continue constantly to send your ships and dows laden with merchandise," wrote the Sultan to him by way of encouragement.

The object of this uncustomary liberality of the Sultan will not be clear to the reader at the first glance. Here was a political game, the more pleasing to the Sultan because he saw also chances of pecuniary advantage in it. For some time past, it was the earnest desire of the Sultan to establish a political connection between the Khudadat Sultanate (his Kingdom) and the Moslem States of the Persian Gulf and the Levant. Muscat was a rich and a valuable port which, so to speak, opened the door to Islamic countries, contacts and possibly Islamic aid in any future trail of strength with his enemies, which he knew was imminent. The Imam held a high place in the Moslem world and it was probably Tippu's desire to win his favour for political and mercantile benefits. It was one of Tippu's great desires to obtain possession of the port of Bussrah *in farm* from the Caliph of Constantinople. He wrote to Ghulam Ali Khan, one of his ambassadors, expressing this wish and asking him to arrange it.

The Caliph of Constantinople had returned an angry refusal to the Sultan's earlier request sent through his ambassador despatched for the purpose of exchanging the port of Bussrah for the port of Mangalore. If this plan had succeeded, the Sultan would have succeeded in establishing a link between the Khoodadat Sircar

(Tipu's name for his Kingdom) and the Caliphate and the latter would have been, willy nilly, implicated in Tippu's wars. It was a shrewd move, but the proposal was bound to prove unattractive to the Caliph, for Bussrah, a mercantile mart of great value and strong Islamic associations, was not a port the Caliph would barter away for the doutbful advantage of a port in Canara. The embassy was a failure in every respect. It met with a cold reception. Climbing down, Tippu's Ambassodor had to content himself with a request for certain trade privileges in Bussrah. Only 68 out of the 1,100 persons sent by the Sultan returned. Nearly 600 died of plague. The ambassadors quarrelled among themselves and the 20 lakhs of rupees the Sultan spent on the embassy proved a waste.

The Mysore ships carried a number of ambassadors charged with political and trade negotiations abroad and it may be remarked that not a single political embassy quite succeeded in its objects.

In 1784, he sent an embassy under one Othman Khan, formerly his valet, and elevated to the distinction by the Sultan's ill-placed confidence. Othman Khan's only recommendation was his command of a high - flown and ornate language. The embassy was sent to Constantinople on an exploratory task, for "preliminary information". Nothing came of it, at any rate, nothing notable is on record. The second embassy of "four men of rank" was asked to go "to Constantinople and from there to Paris" on a political mission and also to get military aid. They had planned to embark from Mangalore, but later the Sultan changed his mind and sent them to Pondicherry and thence to the court of King Louis XVI. This was in 1787. Perhaps the previous reception at Constaninople still rankled in him. The Sultan cancelled Constantinople.

The Sultan's hopes were centred on France. His faith in French help was so great as to enter even his dreams, which he always took great pains to record and interpret for the benefit of posterity. "On the 17th of May 1796, on the night of Thursday (followed by the sacred day of Friday), towards morning", wrote

Tipu, "this servant of God (self) had a dream. Methought it was represented to the presence that a French man of rank was arrived. I sent for him and he came... When he came near the Musnad, I rose up and embraced him. I caused him to sit down......He said 'I am come with ten thousand men for the service of Koodadat Sircar. I have disembarked them all on the sea shore ' This pleasant dream was cruelly interrupted for "at this moment the morning dawned and I woke up".

This French aid remained a dream. But not altogether a dream.

Early in 1797, a privateer from the Isle of France arrived, dismasted in a gale, at Mangalore. The Meer-e-Yem, who had been formerly Tipu Sultan's ambassador to France, knew a little of French. He went to the master of the vessel and made sufficient conversational progress to discover that the Frenchman had clear instruction to contact the Sultan. This Frenchman was the notorious M. Ripaud, an imposter. With his eloquence and assurances, he completely deceived the Sultan. It was at his instance that the Sultan agreed to send a secret mission to the Isle of France in 1798 to obtain naval help from the French. Article 2 of the engagements proposed by Tipu to the Executive Directory of Paris provided for "a naval force to carry on hostilities on the coast where our armies may be, in order to favour their operations and reinforce them, if necessary". The Sultan also addressed a circular letter to the chief of the military Department to know their requirements from France. One or two of the heads of the military establishment knew the weakness of the French too well to hope for any favourable outcome from these negotiations. Mohamed Razza replied (25-3-1797).

"In spite of the expenditure of so large a sum of money, the insincerity, the faithlessness and refractory disposition of the French is evident to Your Highness". [The French had promised to capture Calicut for the Sultan by a naval action, but they did not even attempt it]. Mohamed Razza did not favour the purchase of a vessel the French had for sale, "because they seized it piratically". He suggested that Tippu's secret emissaries should sail in another vessel, "lest some disturbance should happen."

The heads of the marine department, Ghulam Ali and Hafeez Muhamad, in their reply to the Sultan's query, "***what negotiations and engagements shall be entered into with the French nation ?***" wrote as follows :—

" An engagement to this effect should be entered into with the Sirdars of the French Nation, viz., that while the Sun and the Moon endure, the French shall not swerve from their friendship with the Sircar". From the annoying experience of the previous wars with the English, when the French ceased hostilities without consulting their allies, as soon as the Anglo - French war was over in Europe, they added by way of a precaution, "they shall not act, with respect to the continuation of war or the conclusion of peace, without the concurrence of the Sircar". The French force was to be under the Sircar's operational orders.

Regarding Mon. Ripaud, they had no illusions.

"Nothing has resulted from his business and nothing will come from it. From the erroneous statement of this scoundrel, the strongest doubts have arisen. "

The Sultan did not heed the warning. Ripaud took money and a ship and sailed to the French Islands with Sultan's secret emissaries.

It was an unlucky voyage. Four of the crew stole a big sum of money and deserted in a boat, even before the vessel had lost sight of land.

In the Isle of France, Ripaud did his best to raise a quarrel with the Sultan's agents so as to have a pretext for parting company. Failing in this, he was obliged to prevail upon Malartic, Governor of the Isles of France and Le Reunion, to do something. Malartic, whether by design or inadvertence, made a loud proclamation over the Islands, calling for volunteers to serve Tippu and thus the secret mission became known to everyone.

Malartic succeded in raising a ragamuffin and unwarlike crowd of men unwanted in the Island and despatched them in the frigate ***Prenuse***, along with Tippu's emissaries. In his letter to the Sultan Malartic made it clear, that it was only an interim relief, "while waiting for succour for the purpose of attacking your enemies, who are also enemies of the French Republic."

Malartic just wished to get rid of the Sultan's emissaries. The ships were not forthcoming, nor the guns. Malartic forwarded to the Sultan a statement of pay of the officers and men he had despatched. The figures were discouragingly high. He wanted the Sultan to pay 2,000 rupees per month to a captain, Rs. 500 to a Lieutenant and so on down to the corporal who was to be paid Rs. 40 in addition to a long list of provisions and comforts. If the Sultan cannot agree to these terms, he was to send the men back to the Isle of France at the Sultan's expense.

When in the roads of Mangalore, Dubuc, the Captain of *La Prenuse*, wrote a pompous letter to the Sultan informing him of his arrival and of an unrecorded and imaginary engagement he had with two English ships (names not given) which ended (so Dubuc claimed), in the capture of the two ships and their despatch, as trophies, to the Isle of France. The Sultan could have used them. The valour of his new recruits was praised with Gallic extravagance. "The enemy ships mounted 52 guns and had a battalion of sepoys, two standards and many officers on board." He also paid a glowing tribute to Tippu's two ambassadors. Malartic also wrote to the Sultan praising the character and loyalty of the too ambassadors.

It may be presumed that these two emissaries were greatly dejected at having been made victims of a hoax costly to Tippu in money and fatal to his designs. Malartic's indiscretion in making a public proclamation of what Tipu had intended to be covered in utmost secrecy, must have alarmed the two emissaries with the fear of the Sultan's wrath and customary punishment. We, therefore, find the two men being praised in a number of letters written with the object of placating the angry Sultan.

The Sultan had no option. He engaged the men and officers after imposing a drastic cut in the salaries he was called upon to pay. A lieutenant got only half the original demand now. Still later, when the Sultan actually paid an advance, these figures underwent a further reduction, even more drastic. A master of the port, a carpenter, a builder, a lieutenant and a midshipman were altogether paid for one month's service 165[*] pagodas only. The Sultan who had asked his Amils in Mangalore only in January 1798 to get sailors at Rs. 7 per month was not going to change his mind in April and give in to the exorbitant demands of any Frenchman, however pompous:

Dubuc, the Commander of the French fleet yet to arrive, realising that the hoax had gone too far, agreed.

In the war which followed we hear of no naval engagement by either the Mysore or the French fleet. The Sultan was dangerously unprotected along the sea. Not a single French sail was visible on the western sea. We do not hear of any interception of ships bringing reinforcement from Bombay to General Stuarat, who was then getting ready to march on Seringapatam. General Harris marched on the doomed city from Madras. And the end came.

The end of the Third Mysore War (1792) cut off Malabar from Mysore territory and the last war (1799) deprived Mysore of her remaining coastal possession of Canara. The ports and the shipping came into English possession and the Mysore navy ceased to exist.

BRITISH STRANGLEHOLD AND INDIAN RESISTANCE

CHAPTER VII

LONG before the territories over which the East India Company had sway passed under the administration of the English Crown in 1857, the Company had set up shipbuilding yards in Bombay and Calcutta to build merchant ships and naval craft to protect the Company's merchantmen from attacks by rival European powers. Indian ships of teak were cheaper to build and more durable than ships of oak made in England. As early as 1735, an enterprising Bombay shipbuilder, Lowji Nasserwanji Wadia, began building ships of all description for the Company under the Company's patronage. The ships were built according to the rigid specifications and standards set by the Company's Board of Directors. The Wadia family of master ship-builders of Bombay were the great pioneers of modern Indian shipbuilding.

From 1735 to 1858, the Wadias built over 350 vessels employing an army of workmen. According to the testimony of English experts, the Wadia ships were far superior to ships built in English yards. Indian ships built in Bombay cost the English a fourth of the cost of imported ships and had a seagoing life of 60 years, three times more than the life span of English-built ships. One of the Indian ships, Daria Dowlat, built in 1750 for the Company was found sound and sea worthy even after 87 years of continuous sailing, while British-built ships required to be renewed every 12 years. It is no exaggeration to say that England owed her naval supremacy in a large measure to the strong and cheaply built ships of teak built in Indian docks. When the British crown in England took over the administration of the territories under the Company, the Company's Indian navy was abolished. Indian ship-building industry suffered a set back.

It may be said here that there were fair-minded Englishmen who disliked the monopolistic ways of the East India Company and stood up in defence of Indian shipping. When Lord Wellesley was Governor-General of India (1798—1805) he resisted the Court of Directors of the Company and disobeyed their repeated instruction to deny Indian shipping industry a chance of survival.

In his days there were European 'interlopers' trading with India who infringed on the East India Company's monopoly. After a prolonged wrangle, the East India Company agreed to let them carry 3000 tons of freight provided they used the Company's ships. But the Company charged such exorbitant rates that even this small allotment went unutilised. Lord Wellesley actively assisted these merchants to obtain ships owned by Indians to enable them to carry their trade to English and European ports economically in better ships. Lord Wellesley also favoured Indian ship-building industry. As the Company's Court of Directors consisted of some of the leading ship-builders and owners of England, this move was resented. Pressure was put on the Parliament to prevent ship-building in India. English ship-building interests even engineered public demonstrations against Indian-built ships when they put in at English ports. In the words of Dr. Taylor, "The arrival in the Port of London of Indian produce in Indian-built ships created a sensation among the monopolists which could never have been exceeded, if a hostile fleet had appeared in the Thames......The ship building interest declared that their business was at the point of ruin and that the families of all the ship-wrights in England were certain to be reduced to starvation." Col. Walker, another fair-minded Englishman, wrote officially in 1811 supporting Lord Wellesley's policy and even recommended the building of ships for the English navy in India. The Court of Directors found this proposal acceptable, because of the enormous saving in expenditure, but they would not have any Indian sailor employed on those ships!

In 1814, a Select committee of the House of Commons with

Sir Robert Peel as chairman examined the question and presented their report. Indian sailors, even though British subjects, were not to be deemed as British mariners. Any ship, even though British, which had not on board three-fourths of its crews of British mariners, or seven British mariners per 100 registered tons, would be liable to forfeiture, and that no ship was to enter the port of London whose master was not a British mariner. That did it.

As though this was not enough, steps were taken in India to impose differential import duties in favour of goods carried in English ships. The duty for goods carried in non-English bottom was twice as high as that on goods brought in English ships.

Yet another fair-minded English observer, Sir William Digby, observed: "I have wandered through the records of obscurant administration of India during the past century, growing more and more woeful as instance upon instance forced upon me the unteachability of the Anglo-Indian civilian. Scarcely anything has struck me more forcibly than the manner in which the Mistress of the Western World has striken to death the Mistress of the Eastern sea."

With the consolidation of British power in India, Indian shipping industry, like many other Indian enterprises, languished and slowly disappeared. To India, this was particulary unfortunate for two reasons. It was the period of transition from the sailing vessel to steam ship. The progress of Indian ship-building industry was thus forcibly arrested. Secondly, it was the period of fast developing overseas trade from which a combination of British shipping interests and British rulers of India ruthlessly excluded Indian participation. Even our coastal shipping in our own territorial waters was deliberately suppressed and very nearly extinguished by cut-throat British competition, aided and abetted by India's British rulers. From 1854, a British shipping company, Calcutta-Burma Steam Navigation Company, later renamed the British Steam Navigation Company Ltd., assumed complete control and monopoly of India's coastal and overseas trade, beating down every other shipping interest, Indian and European. When after the opening of the Suez Canal, Indo-British trade grew to colossal proportions, the British-India Steam Navigation Company Ltd. had complete command of Indo-British trade. Another British Company, the Peninsular and Oriental Line Co., was in unchallenged control of India's Far Eastern trade. Almost the whole of India's overseas and coastal trade thus passed into the hands of the British. Indian shipping was very near extinction in the heyday of British capitalism and imperialism.

On the sea, the Kunjalis, the Angreys, the Siddis and the Karnataka seamen who had resisted foreign domination for three centuries were now but a faint memory. Internal weakness due to dynastic and religious dissensions had so disunited and weakened our country that we were easily overcome by a foreign power supported by a strong navy. What is astonishing is the fact that it took the English near two centuries to wear down our maritime resistance.

When the English destroyed our ship-building industry and navigation we fell back by a whole hundred years out of step with the age of steam-powered iron-clad ships. The story of the systematic destruction of our shipping by a league of British rulers and shipping interests is a sad chapter without parallel in colonial history and too long to narrate here. The English used every means, legislation, rank favouritism, invidious subsidies, financial coercion, patronage, racial discrimination, denial of facilities and unfair competition to suppress Indian navigation. Brave Indian enterpreneurs who came forward to resist English monopoly went down one after the other. During the period of national upsurge following World War I, Indian enterpreneurs risked everything to assert their right to sail on our seas and revive India's maritime tradition. From the start it was a futile fight,—the resources of the most powerful mercantile colonial empire in history pitted against individual enterpreneurs. It is to the glory of these bold and patriotic pioneers that they managed to keep the Indian flag flying on the seas at ruinous cost to themselves..

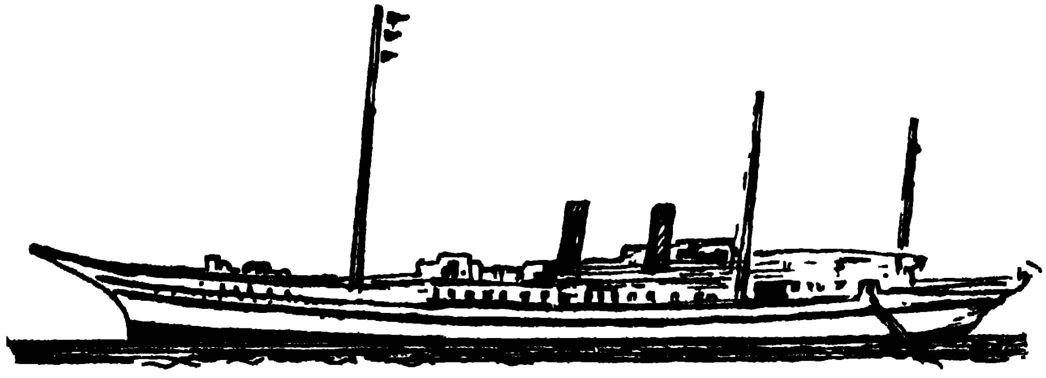
Jamshedji N. Tata, the illustrious and far-seeing pioneer industrialist was one of the earliest Indians to enter the arena. He started the Tata Line in 1894 with the object of fighting British shipping monopoly and their exorbitant freight rates. Tata, a noble and fair-minded philanthropist, could not have anticipated the degree of unfair competition to which the British shipping interests would descend. Tata Lines chartered four ships and started monthly sailings between India and Japan, charging a freight rate of Rs. 12/– per 40 cubic feet against the Peninsular and Oriental (British) rate of Rs. 19/–. The P & O replied by reducing its rate from Rs. 19/– to Rs. 1½ and threw in a bonus, carrying cotton free of charge to Japan. Tatas appealed to the Secretary of State for India against these unremunerative rates and ruinous rebates and pleaded for healthy and normal trading practice, but nothing came of it. Tatas had to close their shipping activities. The P & O promptly raised their freight to the original Rs. 19/-. Two other patriotic Indians, Kala Mia and Nilkrishna Roy of Chittagong started a shipping service to compete with the British India Steam Navigation Company, and suffered the same fate.

About 102 Indian shipping Companies with a total capital of 46 crores were registered between 1860 and 1925. The majority of these companies succumbed to English competition. The famed Indian patriot. Shri V. O. Chidambaram Pillay, a disciple of Lokmanya Bal Gangadhar Tilak, started a steamer service for coastal traffic. His object was to establish "a cheap and reliable steamer service between Tuticorin and Colombo, Bombay and Calcutta". His shipping line, called the Swadeshi Shipping Company Ltd., had a capital of Rs. 10 lakhs. He bought a new steamer of 1305 DWT, the *Gallia* and later added another ship ***Lawove.*** These two ships plied between Tuticorin and Colombo. This mini-venture invited the wrath of the B. I. S. N., which began a cruel rate war and even carried passengers free on the route. In the meanwhile, V. O. Chidambaram Pillay, who was deep in political activities, was arrested and sent to jail. His company lost its entire capital and had to go into liquidation. The people of Tamil Nadu still remember his sacrifice and call him "Kappal Ottiya Tamilian"—"The Tamilian who owned ships".

In 1905, another patriotic Indian, Nur-ul-Haq Chowdari, started a shipping company in Burma, then under British rule.

This Company, called the Bengal Steamship Company, confined its sailings to the ports of Bengal and Burma. It made a good start. The BISN and the P & O promptly merged, and with a combined fleet of 20,00,000 GRT and political backing, British shipping was in a position to flick away any venturesome Indian shipping enterprise. That was the position of Indian shipping before and during World War I.

After World War I, Indian Shipping found a courageous leader and fighter in the late Shri. Narotham Morarjee to whom goes the credit of laying successfully and soundly, the foundation of modern Indian shipping. Undaunted by the fate of his predecessors, Sheth Shri. Narotham Morarjee, an astute businessman and a far-seeing visionary formed plans to start an Indian shipping company. A close friend and business associate, Sheth Walchand Hirachand, a patriotic industrialist to whose bold pioneering enterprise India owes many debts, and a few other important businessmen notably Sheth Lalubhai Samaldas and Sheth Kilachand Devechand, came together and started the Scindia Steam Navigation Company Ltd. in March 1919. The odds against them were heavy. Powerful British shipping interest and the all-powerful British rulers of India, racial and national anti-Indian prejudice were some of the forces they had to fight against. In those days, patriotism was equated with treason, and swadeshi spirit was denounced as a subversive move against British rule. The



Scindia Steam Navigation Company's s. s. Loyalty, the first Indian-owned steamship to sail from Bombay to the United Kingdom (April 5, 1919).

Scindias resisted every onslaught and temptation and fought the vested interests on the business, legislative and judicial fronts to establish themselves as a leading Indian navigation company. When the company's first passenger ship s. s. *Loyalty* sailed from Bombay to U. K. on 5th April, 1919—a bold and patriotic venture—Indian national shipping was revived.

A distinguished Indian member of the Viceroy's Executive Council, Sir. Joseph Bhore who was in charge of the Commerce and Railways portfolio between 1929 and 1935, championed the cause of the small Indian shipping companies engaged in coastal traffic. These small Indian shipping companies were facing a ruthless rate war introduced by the larger European and English companies. Sir Joseph Bhore's memorable award gave a just and fair deal to all the parties. 85% of certain trades on the west coast came to the small Indian steamship companies who were not members of the coastal companies of 1923-33. Big Indian shipping companies were to refrain from cutting into the routes marked out for the smaller shipping lines on the west coast. For over 35 years this award has been the guideline of coastal shipping regulation. His award was an outstanding contribution for the development of Indian shipping.

The exciting story of the progress of Indian shipping since independence is dealt with in the next section. The notable thing is the fact that we were quick to pick up the threads where we dropped them. India was fortunate to have competent leadership in shipping industry and a helpful national government.

From 1956 to 1966, Dr. Nagendra Singh, I.C.S., a brilliant administrator, was the Director General of Shipping in India. He was responsible for important developments by which Indian shipping was able to expand in several ways. The tonnage of Indian shipping crossed the one million mark in 1962. He revised and consolidated the various maritime laws into a single act, ***The Merchant Shipping Act of 1958.*** This distinguised Indian legal expert was the first Indian to be elected president of the Inter Governmental Maritime Consultative Organisation, a world shipping body. He modernised Indian shipping.

Of the several distinguished patriots who served the cause of Indian shipping, only a few names have been mentioned here. There are many more to whom Indian shipping owes a deep debt. Their names and the story of their courageous enterprise are a theme fit for a larger book than this.

PROGRESS OF INDIAN SHIPPING SINCE INDEPENDENCE

DR. K. V. HARIHARAN

Dr. K. V. Hariharan, M.A., Ph.D., an authority on India's maritime history and the development of oceanic transport is working with the Scindia Steam Navigation Company Limited (Research and Statistics Division). He is a member of the faculty of Narottam Morarjee Institute of Shipping, where he lectures on the economics and development of ocean transportation. He has published several valuable papers on aspects of Indian Shipping.

The author and publisher owe a deep debt to him for his constant guidance and generous help in the preparation of this volume. Here, he has dealt with the progress and problems of growth of our mercantile marine since India became free.

PROGRESS OF INDIAN SHIPPING SINCE INDEPENDENCE

Dr. K. V. Hariharan

CHAPTER VIII

Background

GEOGRAPHY and history combine to make India a maritime country. Set mid-way between the Eastern and the Western World, she is bounded on the West, South and East by the Arabian Sea, the Indian Ocean and the Bay of Bengal respectively, bestowing on her an extensive coastline of 5,700 kilometers studded with numerous ports. Historically her maritime activities began as early as 3000 B.C. when the Indus Valley Civilization, with its ports of Mohenjodaro (on the River Indus, now in Pakistan) and Lothal, on the coast of the Gulf of Cambay in Gujarat, traded in ships with the civilizations of the Persian Gulf. Thus evolved a maritime tradition which was perfected by practice through the centuries. India built ships in large numbers which enabled Indians to develop and maintain seaborne commercial and cultural contacts with farflung countries of the Red Sea and Egypt in the West and Indonesia, Malaya, Burma, Indo-China and beyond in the East. Archeology, literature, numismatics and paintings attest to these facts. Upto the end of the 18th century, India held her sway in wooden ship-building and even the British Navy preferred India-built ships.

With the loss of freedom and advent of steam and iron-built ships Indian shipping received a grievous setback and became almost extinct. Although serious efforts were made by patriotic Indians, notably J. N. Tata and V. O. Chidambaram Pillai, to revive the national shipping in the last decade of the 19th century and the early years of the present century, they were of no avail due to the fierce competition from foreign vested interests. Mahatma Gandhi aptly described the situation thus "The Indian shipping had to perish so that the British shipping might flourish."

Undaunted by the past vicissitudes to national shipping ventures, Narottam Morarjee in association with Walchand Hirachand, Lalubhai Samaldas and Kilachand Devchand founded the Scindia Steam Navigation Co. Ltd., on 27th March 1919. The Company's first ship s.s. "Loyalty" of 5,934 gross tons sailed on 5th April 1919 from Bombay to U. K. and heralded the birth of modern Indian shipping. This day is commemorated as "National Maritime Day" which is being observed on 5th of April every year since 1964. The Company had to survive many freight wars and to wage heroic battles to establish the legitimate rights of Indians to run shipping services. Besides, valiant efforts were also made in the Indian legislature by P.S. Sivaswami Iyer, S.N. Haji and others to establish the rights of Indians to build national mercantile marine but with only limited success. The Government established in Bombay in December 1927 a training Ship "Dufferin" to train navigating and engineering cadets.

Genesis of National Shipping Policy

The Indian-owned tonnage at the outbreak of the Second World War was only about 125,000 gross tons. That a mercantile marine of this size was woefully inadequate for the requirements of a country of the size of India was brought home during the Second World War when she could not provide adequate tonnage from her own resources for the transport of foodgrains and other essential supplies for civil requirements, not to speak of her meeting the requirements of the defence authorities. It was then realised even by the alien Government that the rectification of India's position in this respect should be one of the immediate post-war objectives.

Accordingly, with a view to formulate a national shipping policy, the Government of India appointed in 1945 a Reconstruction Policy Sub-Committee on Shipping. The Committee submitted its report early in 1947. The main recommendations made by the Committee were that the entire coastal trade should be reserved for Indian shipping, that 75 per cent of the near and adjacent trades and 50 per cent of the distant trades should be secured for it and that India should aim at the acquisition of two million gross tons of shipping within seven years for that purpose. The Government of India in their Resolution of 12th July 1947 endorsed the view of the Reconstruction Policy Sub-Committee that India must adopt a dynamic shipping policy with regard to her shipping and accepted its recommendations.

Tonnage on the eve of Independence

On the eve of Independence, India had a shipping tonnage of 1.92 lakhs g.r.t. composed of 59 ships, the major portion of which was employed in the coastal trade and the adjacent trade with Burma and Ceylon. Indian shipping carried only one-third of the coastal trade.

Independence and after

India became independent on the midnight of 14th August 1947. It was indeed a tryst with destiny. The past was over but the future posed its own challenges. Our national Government accepted the development of Indian shipping as an accepted objective of State policy. In pursuance of this policy, the Government of India have since taken several steps to assist the development of Indian shipping and more important of these steps are :

(*a*) Reservation of coastal trade to national shipping ;

(*b*) Setting up of Shipping Corporation in the public sector;

(*c*) Development of shipbuilding industry in the public sector ;

(*d*) Grant of loans on concessional terms to Indian shipping companies for the acquisition of additional tonnage ;

(*e*) Grant of preference to Indian ships in the allotment of Government-controlled cargoes ;

(*f*) Introduction of bilateral shipping services with countries like U.S.S.R., Poland, U.A.R., and G.D.R.

(*g*) The concessions to shipping industry such as grant of development rebate of 40 per cent (which has been announced to be withdrawn effective 1st June 1975 and to be replaced by a 20 per cent initial depreciation which in the view of shipowners is a very poor substitute);

(*h*) The exemption of shipping industry from Wealth Tax;

(*i*) Making available foreign credit from countries like Japan, United Kingdom, West Germany, Yugoslavia, Belgium, Poland etc. for the acquisition of tonnage;

(*j*) Enhancement of the limit of foreign participation in the shipping industry from 25 to 40 per cent with effect from 1963;

(*k*) Revision and consolidation of the Merchant Shipping Law and the enactment of the Merchant Shipping Act. 1958;

(*l*) Establishment of training institutions for personnel viz., the Directorate of Marine Engineering Training, the Nautcial and Engineering College and the Ratings Training Establishments;

(*m*) Financial assistance given to establish and run Narottam Morarjee Institute of Shipping which provides specialised courses of study in commercial shipping practices;

(*n*) Improvement of the system of recruitment of seamen and the establishment of the Seamen's Employment Officers; and

(*o*) Establishment of advisory bodies like the National Shipping Board, the Merchant Navy Training Board and the National Welfare Board.

As a result of these steps, Indian shipping has made steady progress during the post-Independence period and the Indian tonnage as on 1st August 1974 stood at 3-54 million g.r.t. composed of 289 ships.

Growth of Tonnage during Five-Year Plans

Since 1951 shipping has been included in the Five Year Plan projects and its expansion has been governed generally by the targets and the financial allocations made in the Plans. At the beginning of the first Five-Year Plan (1951-56), Indian tonnage was about 3.9 lakhs g.r.t. At the end of the Plan period, Indian shipping in operation was about 4.8 lakhs g.r.t., besides 1.2 lakhs g.r.t. being on order or under construction in India or abroad for Indian shipowners. The financial provision made in the Plan was Rs. 26.3 crores.

At the end of the Second Five-Year Plan (1956-61), the tonnage in operation was about 8.57 lakhs g.r.t. and ships of over 6.5 lakhs g.r.t. were under construction. Although a financial provision of Rs. 45 crores was made initially, it was increased to about Rs. 52.7 crores for the Second Five-Year Plan period.

By the end of the Third Five-Year Plan (1961-66), Indian tonage increased to over 15 lakhs g.r.t. with ships aggregating about 5 lakhs g.r.t. under construction. It is noteworthy that during the Third Five-Year Plan, Indian tonnage far exceeded the target of 10.8 lakhs g.r.t. initially set and subsequently raised to 12.5 lakhs g.r.t. and again to 13.25 lakhs g.r.t. and this could be done without enhancing the financial provision of Rs.51 crores, as the acquisition of tonnage was made mostly on deferred payment terms and in many cases, without financial assistance from Government.

Due to various reasons including the dearth of foreign exchange resources, the Fourth Five-year Plan was postponed till April 1969. Nevertheless the acquisition of Indian tonnage during 1966-69 continued though slowly but steadily and in the beginning of 1969, the Indian tonnage crossed the glorious mark of two million gross tons.

When the Fourth Five-Year Plan (1969-74) was launched on 1st April 1969, the target for shipping was laid as 4 million g.r.t. of which 3.5 million g.r.t. would be in operation and 5 lakhs g.r.t.

would be on order at the end of the plan i.e.. 31st March 1974. As against this, the operative tonnage at the end of the plan period was only 3.04 million gross tons being short of the target by about 0.5 millions gross tons. This shortfall in the operative tonnage was attributed mainly to the boom in the world shipbuilding industry during the latter part of the Plan period on account of which it became difficult for shipowners to place orders for new ships with prospects of early delivery. At the end of the Plan period, Indian shipowners had under construction or on order in India and abroad ships aggregating 2.12 million gross tons. The major portion of the tonnage under construction or on order consists of bulk carriers, Oil-Bulk-Ore (OBO) carriers and tankers including Very Large Crude Carriers (VLCCs) of 120,000 gross tons each.

Composition of Indian Tonnage :

The position of Indian tonnage as on 1st August 1974 was as under:

	No of vessels	*G.R.T.*
Coastal		
Dry cargo ships	46	200,137
Passenger/Passenger-cum-cargo	12	36,701
Tankers	4	41,634
	62	278,472
Overseas		
Liners	132	1,115,457
Bulk Carriers/Ore-Oil Carriers	45	1,314,130
Small Trams	32	316,253
Passenger-cum-cargo	4	39,536
Tankers	14	480,528
	227	2,265,904
Grand Total	289	3,544,376

Since the beginning of the Third Plan period, the programme of expansion of tonnage has been weighted in favour of bulk carriers, ore-bulk-oil carriers and overseas tankers. This had necessarily to be so because about two-thirds of our overseas trade is composed of bulk commodities like iron ore, food grains and petroleum products in the carriage of which the share of Indian shipping has been not more than 15 per cent. As a result, the overall share of Indian shipping in the country's overseas trade has been only about 20 per cent at present. Considerable leeway has, therefore, to be made in the acquisition of bulk carriers and tankers. This aspect has been specially taken into account in drawing up the programme of shipping expansion.

Apart from the acquisition of tonnage, substantial progress has also been made in modernisation of the fleet with the scrapping of overaged ships and their replacement by modern built ships. The following table gives the age-wise analysis of Indian tonnage. It will be observed that most of the overseas tonnage is less than 15 years old, while in the coastal fleet, ships over 15 years continue to predominate. Ships of over 20 years need to be replaced soon.

Age group		*No. of vessels*
Coastal		
Vessels under 5 years	...	5
Vessels of 5 to 9 years	...	12
Vessel of 10 to 14 years	...	12
Vessels of 15 to 19 years	...	10
Vessels of 20 years and above	...	23
		62
Overseas		
Vessel under 5 years	...	64
Vessels of 5 to 9 years	...	56
Vessels of 10 to 14 years	...	42
Vessels of 15 to 19 years	....	58
Vessels of 20 years and above	....	7
		227

Overseas Services:

Indian shipping is operating in most of the important overseas trade routes like India/U.K.—Continent, India/U.S.A. and Canada, India/USSR and Rumanian (Black Sea ports), India/Japan—Far East, India/Australia, India/Red Sea-West Asia, India/East Africa, India/Malaysia etc. Indian shipping campanies operating in liner trades are members of the shipping conferences/rate-agreements covering their respective trades. In established liner trades, Indian shipping is carrying around 45 per cent of our country's overseas trade. Trades with Russia, Rumania, German Democratic Republic, Poland and U.A.R. have been carried on the basis of bilateral shipping agreements. Indian shipping has also been providing as far as feasible promotional shipping services with a view to help India's export promotion to areas hitherto not served by Indian lines.

Indian shipping is also operating in tramp trades carrying bulk commodities like foodgrains, fertilizers, iron ore, petroleum products etc. both in India's overseas trades and in international cross trades.

Indian shipping earns and saves substantial foreign exchange for the country and the freight and passenger fare earnings of Indian shipping in the overseas trade were about Rs. 199 crores in 1972-73. This highlights the vital role played by shipping in our country's economy.

Coastal Shipping Problems

Coastal shipping presently caters to the trades between Indian ports, Sri Lanka and Bangladesh. The reservation of Coastal trade to national shipping which began in 1950 was fully achieved in 1952. While presently Indian shipping carries cent per cent of dry cargoes on the coast, its share in the carriage of oil on the coast was 58 per cent in 1973, the balance being carried by foreign tankers. In 1972-73, Indian ships earned Rs. 16.87 crores as freight and passenger fares in the coastal traffic.

The coastal shipping faces numerous problems at present, the important of them being the need for replacement of overaged tonnage and types of replacement ships to be acquired; dearth of foreign exchange to acquire tonnage; optimum size of the coastal fleet to be maintained on strategic consideration taking into account the types and sizes of the replacement ships to be required; the cargo that should be made available to coastal shipping in order to maintain a fleet of that size and economic freight rates.

Numerous studies have been made on the problems of coastal shipping by different authorities from time to time. The latest study of the coastal shipping problems was done by a Sub-Committee of National Shipping Board which submitted its report to the Government of India in January, 1974.

In its Report, the National Shipping Board observed that the decline in the coastal tonnage was due to the scrapping of overaged ships without replacement. No shipowner shows interest in acquisition of tonnage because: (a) the movement by sea of an assured quantity of coal on a long term basis from Calcutta/Haldia to coast ports has never been guaranteed; (b) the movement by sea of salt from Gujarat ports and Tuticorin to Calcutta has also not been wholly canalised and guaranteed. By and large, it has been left to market forces and voluntary agreements which have not worked successfully. (c) Coastal freight rates have been statutorily controlled by Government and not allowed to be adjusted *pari passu* with rise in costs; (d) There is substantial diversion of general cargoes which were carried by sea to Road Transport not only because of freight differential but also on account of the obvious advantages of door to door delivery, lesser risk of damage and absence of restrictive customs formalities and (e) Delays at ports have enhanced costs so that freight rates by sea have progressively become less and less competitive against Road and Rail.

The National Shipping Board's recommendations with a view to rehabilitate the coastal shipping were: (a) to expand dry cargo coastal tonnage to 6 lakhs gross tons by 1979 on the basis of the projected movement of a total volume of 6.5 million tonnes coal on the coast; (b) to release requisite foreign exchange to meet the full cost of the ships or to the extent of instalments payable towards the cost as may be required against deposit of equivalent rupees; (c) to permit acquisition of ships of over 10 years to enable immediate augmentation of the coastal tonnage; (d) to allow coastal ships to participate in adjacent trades to Bangladesh, Burma, Sri Lanka, Pakistan when open and West Asia; (e) to pool and rationalise the coastal services under the aegis of the Indian Coastal Conference with a view to eliminate wastage of shipping space and enabling full utilisation of avaliable tonnage; (f) to guarantee minimum quantity of coal to be moved by sea and to reserve salt movement by sea; (g) for ensuring speedy adjustment of freight rates *vis-a-vis* cost of operations, to set up a Maritime Freight Commission for a continuous review of the rates, with full powers to sanction requisite adjustment therein from time to time; (h) to set up freight equalisation funds for coal and salt to be operated by the Railways and the Salt Commissioner respectively, in order to keep down sea freight costs.

Further the report also stressed the importance of appropriate measures for quick turnround of ships at loading and discharging ports, need for concessional duty on bunker oil to coastal ships, relaxation of Customs and Port formalities, relaxation of manning requirements etc. and recommended an integrated policy framework to be implemented by Government as a consolidated package measure.

Role played by Indian shipping in emergencies

Merchant ships had helped the nation in emergencies. In 1947 when India was partitioned and there were mass migrations, Indian ships carried many lakhs of refugees from Pakistan to India. The shooting at our national ship "Sabarmati" by the Portuguese during her return voyage from Goa on 17th November 1961, accelerated the liberation of Goa from the Portuguese. In 1965 Indo-Pakistani War, our national ships "Sarasvati" and "Jala Rajendra" were impounded by the Pakistani Government, while India also impounded a few Pakistani ships.

In 1971 the Indo-Pakistani War was unique. The technique of the prosecution of this war by the Indian Armed Forces would remain a model of perfection because of the best coordination between the Army, Air Force and the Navy, for their unity of action and for their crowning success. During the emergency naval control was imposed on Indian merchant shipping and during the war no merchant ship was lost to the enemy. Indian ships were employed in defence operations like transport of troops, munitions, supplies, prisoners of war, refugees etc. The Indian shipowners readily placed the services of all merchant ships at the disposal of the Government and all concerned with the running and management of our merchant ships offered unstinted support to the Government. One of our merchant ships "Vishva Vijay" took active part in Naval operations in Bangladesh waters. Our Defence Minister while paying tributes to the Nation for its splendid response during the war, made particular mention of the role of our merchant shipping in keeping up a steady stream of supplies.

Technological revolution in ocean transportation

Significant and rapid changes have taken place in the field of ocean transportation, particularly in respect of the size, type and design of the ship. These developments are the result of continued quest for achieving rapid handling of cargoes, increasing speed of transport and lower operational costs. The per ton cost of transport is less in the case of bigbulk carriers and tankers. Therefore the trend is markedly in favour of acquiring bigger and bigger ships. Specialised ships such as barge carrying ships (Lash-Lighter Abroad Ship, Seabee), Roll on and Roll off (RoRo), LPG (Liquid Petroleum Gas) and LNG (Liquid Natural Gas) carriers and container ships have been successfully developed.

Indian shipping is slowly keeping pace with the technological developments in the world shipping industry. With the acquisition of bulk carriers of over 50,000 DWT, super tankers of 87,000 DWT and OBO carrier of 1,14,000 DWT and with the programme of acquisition of more bulk carriers and tankers of enormous size, Indian shipping has indeed entered into the sphere of giant ships.

A noteworthy development in the general carge trade has been the application of the principle of unitisation of cargo. Containerisation has emerged as a revolutionary concept in inter-modal transportation system. Developed maritime countries have been employing this technique and on some of the major international routes such as Western Europe/U.S.A. (Atlantic), U.K.-Continent Australia, and Japan/U.S.A. (Pacific), container services have been operated on a regular basis. In South-East Asia, Singapore has built container-terminal and Colombo provides container-handling facilities.

Introduction of containerisation requires huge capital outlay not only in building and operating container ships but also in providing infrastructure facilities such as ports with container yards and heavy lift cranes, trucks and wagons to carry containers from inland points, well-built roads and strong bridges etc. Traditional cargoes forming the bulk of India's trade might not be suitable to containerisation. Introduction of containerisation in India therefore presents many problems which have to be tackled carefully.

However, container carrying foreign vessels have started calling at Indian ports like Bombay where facilities are provided to handle containers. Presently containers are destuffed and stuffed at the ports itself. Steps are also taken to provide container handling facilities at Cochin, Madras and Haldia, near Calcutta. The proposed satellite port of Nhava Shewa, across Bombay harbour, has also plan to build a container berth. Some of the newly acquired ships of Indian companies are designed to carry containers and some Indian shipping companies provide facilities to carry containerised cargoes.

Foreign-owned barge carrying ships also have commenced calling at Indian ports like Kandla, Bombay, Madras & Calcutta, and the ports and customs provide necessary facilities for their operation.

Preslinging and palletisation have been increasingly adopted in India's export cargoes and the result has been encouraging. Although in Indian ports the adoption of these forms of unitisation does not save appreciable time, it does help to save time and cost substantially to ships at foreign discharging ports which are very costly. Efforts should be made to take the maximum advantage of these forms of unitisation in respect of India's exports.

Public and Private Sectors

As mentioned earlier, an important step taken by Government to assist the expansion of Indian shipping was the State participation in the shipping industry. The scheme for the setting up of Shipping Corporations in the public sector was mooted in 1948. Initially, with the co-operation of the Scindia Steam Navigation Company, the Government of India set up in 1950, the Eastern Shipping Corporation which became fully Government-owned in 1956. Another corporation viz. the Western Shipping Corporation was registered in 1956. The two Corporations were amalgamated to form the Shipping Corporation of India in October 1961. Since June 1966 the Corporation had been managing the Jayanti Shipping Co. whose shares were transferred to the Corporation in January 1973.

Besides setting up the Shipping Corporation in the public sector, the Government of India acquired in 1960 the majority share-holding interest in the Mogul Line Limited.

There are more than 30 shipping companies in the Private Sector. Of these the more important ones owning 100,000 or more DWT are: the Scindia Steam Navigation Co., India Steamship Co., Great Eastern Shipping Co., and South India Shipping Corporation.

Government of India have accepted the recommendation of the National Shipping Board that both the public and private Sectors in shipping should fully co-operate to mutual advantage in the larger national interests and that both the sectors should play an equally important role in the expansion of national shipping for which equal opportunities should be provided.

Fifth Five-Year Plan

The shipping target set for the Fifth Five-Year Plan (1st April 1974 to 31st March 1979) is 9.6 million gross tons consisting of 8.6 million gross tons in operation and 1 million gross tons firmly on order at the end of the Plan period. The acquisition programme envisaged in the Plan is weighted in favour of bulk carriers and Ore-Bulk-Oil carriers. The category-wise split up of the operative tonnage target of 8.6 million gross tons is as follows :—

Category		*Million GRT*
Bulk carriers	...	3.559
Tankers	...	1.373
Smaller Tramps	...	1.050
Liners	...	2.060
Coastal	...	0.600
	Total	8.642

It has been estimated that with the acquisition of the above operative tonnage, it will be possible for Indian shipping to secure a share of 100 per cent in the import of crude oil and petroleum products, 100 per cent in the export of Ore to Europe and 50 per cent in the export of Ore to Japan and 50 per cent of India's liner trade.

What our country needs now is a more effective, coordinated and integrated planning in the development of shipping and its infrastructure. Along with the growth of shipping tonnage, Indian ports require to be expanded, modernized and provided with up-to-date cargo handling equipment and other essential facilities. Shipbuilding industry requires to be developed fast. Efforts should be made to achieve simultaneous progress in the fields of shipping, shipbuilding, port development, shiprepairing, manufacture of marine equipment and other allied activities.

DR. M. K. GOSH ROY

An internationally recognised authority on naval architecture, Dr. M. K. Gosh Roy graduated as a Naval Architect in the first batch from the I.I.T., Khragapur in 1957. Later he took his doctorate in Ship Structure, the first Indian to do so. He has contributed nearly twenty papers to important technical journals, notably to the Transactions of Royal Institution of Naval Architects, London. Besides his official duties as Deputy Chief Ship Suryeyor in the Directorate General of Shipping, Government of India, he is actively associated with various I.I.T's and Universities.

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INDIAN SHIPBUILDING INDUSTRY

CHAPTER IX

PROBLEMS AND POSSIBILITIES OF TECHNOLOGICAL DEVELOPMENT

Dr. M. K. Gosh Roy

Of many yardsticks of progress of a modern industrialised nation, shipping and shipbuilding constitute a most reliable index of the level of technological development. For the healthy sustenance of the industrial superstructure, all industrialised nations have to resort to large scale exports and imports of commodities. Shipping is the only effective means of international trade. In this respect, India has done fairly well. Since 1947, Indian shipping has increased from a mere two lakh g.r.t. to twenty five lakh g.r.t. Even the basic composition of the merchant fleet has undergone radical transformation. In 1947, the Indian fleet consisted mostly of slow speed steam-powered dry cargo ships, whereas today in 1972 the fleet is considerably diversified with modern fast multipurpose motor cargo ships, large tankers, large bulk carriers, ore-bulk-oil ships and passenger ships in the Indian merchant fleet. Though in some ways this commendable growth of Indian shipping in the last decade is a part of the general boost up in the internatoinal sea-borne trade and world shipping, it is in no small measure due also to the enterprise and leadership of the shipping community. The positive role of the Indian Government, is also easily seen by the enlightened and liberal credit policy of Shipping Development Fund Committee and by the fact that the lion's share in the growth phenomena has been contributed by a public sector shipping company.

Complementary Role of Shipping and Shipbuilding

But while shipping has flourished, shipbuilding in India has languished. A very major number of our ships is imported from abroad. This is the crux of the problem in this review. That shipping alone cannot be the sole barometer of the industrial and economic well-being of a country is also shown by the fact that the major shipowning nations like Liberia (33.3 million g.r.t.), Panama (5.6 million g.r.t.) and Greece (11 million g.r.t.) are not advanced industrialised nations. All the advanced industrialised nations like Sweeden, West Germany, United Kingdom, etc., build a sizeable part of their annual shipping tonnages at home as can be seen from the 2nd and 3rd columns of Table I, prepared from R.S.I.

TABLE I

Country	National Shipping (million g.r.t.)	Annnal Ship-building capacity	% age of (3) to (2)
(1)	(2)	(3)	(4)
United Kingdom	25.82	1.25	4.85
Norway	19.35	0.60	3.10
West Germay	7.88	1.70	25.00
Italy	7.45	0.60	8.00
France	6.46	0.95	14.70
Sweden	4.92	1.75	35.70
Spain	3.44	0.90	27.75

It is possible to establish a relationship between the annual optimum indigenous shipbuilding capacity and the total shipping tonnage operated by a country. Accepting the widely prevalent practice, if the economic life of a ship is taken as 20 years, the total shipping tonnage of a country is required to be renewed within a period of 20 years. In other words, to build indigenously all the national shipping tonnage that is to be annually scrapped, the country's shipyards must annually launch a minimum of 5% of the total shipping tonnage in service. Secondly, besides the replacement tonnage, the quantum of Indian shipping tonnage itself is expanding continuously as we observed earlier. It should be reasonable to assume from the available statistics that the quantum of shipping tonnage doubles itself every 20 years which implies an annual growth of 5%. Thirdly, it is not always practical nor economical to manufacture every item of ship components and equipments indigenously. It is therefore, highly desirable that the shipbuilding industry exports some ships, say, 20% of the shipbuilding capacity, which is seen from Table II, to represent 2½% of the current shipping tonnage of the country. Adding these three items together in Table II, it is observed that a country's annual optimum level of shipbuilding production should, therefore, average out to about 12½% of total national shipping gross tonnage. Being in a unique class by herself, Japan today boasts of the highest real national shipping tonnage of 27 million g.r.t. and has an annual shipbuilding tonnage of 10.5 million g.r.t. which works out to 38% of the total shipping. In consequence, majority of ships being built in Japan are for exports. However, it may also be seen from cloumn 3 of Table I, that though in the Western European countries the shipbuilding industry is not as active as in Japan, its annual production varies from about 3.1% to 35.7% of the current national shipping tonnages of the respective countries.

TABLE II

Annual Shipbuilding Capacity	Percentage cf Current National Shipping
1. for replacement	+ 5%
2. for expansion	+ 5%
3. for export	+ 2½%
Optimum Capacity	12½%

Problems of Indian Shipbuilding

With this background of international trends in the complementary role of shipping and shipbuilding, let us direct our attention homewards. With a shipping tonnage of 2.5 million g.r.t., our very minimum annual shipbuilding production would not be less than 2 to 3 lakh tonnes whereas the actual production is about 1/10th of this figure, i.e.. about 20,000 g.r.t. It is estimated that in order to participate in some 40% of the seaborne export and import trade of this country, the national tonnage would be increased to a figure of 4 million g.r.t. by 1975-76. Giving due credit to the well experienced Indian entrepreneurship in shipping and with one of world's most enlightened shipping personnel of navigating officers and marine engineers to man our ships, the strength of 4 million g.r.t. is most likely to be achieved as estimated. This would throw additional challenges to the shipbuilding industry in the country to reach an optimum production level of 5 lakh g.r.t. annually, including shipping to be built for export. Unless much greater effort is mobilised, such increased production level is unlikely to be achieved even by the end of this decade.

Let us now briefly look into the problems which have had adverse effect on the development of shipbuilding. It is often said that shipbuilding did not grow in India due to the absence of an advanced industrial infra-structure. Now, the growth of the industrial infrastructure can be accelerated only by the development of new industries on imported technologies and raw materials. Besides, the lack of industrial infra-structure has an equally adverse effect on all other industries. In spite of that, in the field of nuclear technology, the Government is reported to have accepted a far-reaching and versatile programme, known as the 'Profile of the Decade' for developing a new generation of fast breeder nuclear reactors, large nuclear power stations and ancillary equipments. In aeronautics, on the recommendation of an Aeronautical Commission, vast development programmes with several new production units have been initiated, and lately, a decade-long ambitious programme is reported to have been launched to develop

Mach-2 multipurpose aircraft for the military needs in the eighties. Similar basic development programmes are also in progress in varying degrees in the electronics industry, general engineering, electrical and machine building industries, fertilizers and petrochemical industries. It is however observed that technologically matching development programmes of the same dimensions have not been initiated in the shipbuilding industry, the shipyards still requiring technological support from abroad in material and engineering consultancy. The second, and perhaps the more real, cause of underdevelopment in the field is that unlike in shipping, there appears to be a lack of strong professional leadership wedded to the cause of shipbuilding. With many pressing problems claiming the available Government funds and time, the cause of rapid development of shipbuilding does not appear to have received sufficient attention. It is otherwise hard to explain the inordinate delay in commissioning the Cochin Shipyard Project. It is here that the experienced entrepreneurship in shipping could come forward and help to devise ways and means to revitalise and greatly expand Indian shipbuilding in the shortest possible time.

Shipbuilding Development Programmes

Having to some extent acquainted ourselves with the problems of Indian shipbuilding, we may try to formulate an overall strategy of development in shipbuilding during the present decade. Such a programme of development which should include steps to consolidate and modernise existing shipbuilding facilities and develop new ones, may be presented as follows :

(i) To further develop the C. I. W. T. C. shipyard at Calcutta and Goa Shipyard at Goa (Public Sector Undertakings) and other smaller private sector shipyards at Calcutta, Bombay, Cochin and Madras and fully assign to them the responsibility to build tugs, tenders, launches, harbour craft and small ships for coasting.

(ii) To further develop, link up and co-ordinate the production of the four large and medium sized public sector shipyards, e.g. the Visakhapatnam Shipyard, the now developing

Cochin Shipyard, the Mazagon Dock at Bombay, and the Garden Reach Workshop at Calcutta to build a whole series of sea-going ships of all sizes.

(iii) To immediately undertake project studies for two more modern shipyards, possibly at Nhava Sheva off Bombay and at Haldia near Calcutta, so that they could be fully commissioned to build the largest of ocean carriers that our shipping may require now and in future.

The above programme aims at fuller utilisation of exisiting capacities of the smaller shipyards along the coasts, which are some what starved of building orders, by transferring the construction of coastal and inland crafts from the medium sized shipyards like the Mazagon Dock and the Garden Reach Workshop. Shipyards of sizes similar to the Mazagon Dock and the Garden Reach are exclusively engaged in the construction of large merchant ships on the Continent and elsewhere where the author had the opportunity to work and there is no reason why large ocean carriers should not be built in these two shipyards in India, at least from the point view of return on the comparatively higher investments in them. Of course, to embark on such a programme, some re-deployment and expansion of shipyard resources and development may be necessary, especially for the shipyard at Calcutta, the shipyard in Bombay being already engaged in construction of two fairly large modern passenger liners. Of necessity, the programme calls for creation of new shipbuilding centres. At long last, the shipyard project at Cochin appears to have made a start. Keeping in view the minimum level of shipbuilding requirement in the country outlined before, the developmental programme here suggests the early project planning of two more shipyards tentatively recommended at Haldia and Nhava Sheva. If serious efforts are made right from now, it is possible that by 1980 with these six shipyards fully developed or commissioned, an in-built shipbuilding capacity of 5 lakh g.r.t. will be available in the country, the actual production varying between 3.5 and 4.5 lakh g.r.t. according to the needs of replacement of old tonnage, expansion and exports.

National Shipbuilding Development Board

We have now a rather clearer picture of our developmental programmes in the seventies, which we may call 'Profile of the Decade' in shipbuilding. We should now look into the problems of developing the necessary apparata to execute these bold programmes. Cochin Shipyard is being planned by the Mitsubishi Heavy industries of Japan, but from the experience gained so far, it is felt that foreign collaboration may not always present an easy solution to our problems of developing indigenous shipbuilding.

To effectively meet the challenge of the 'Profile of the Decade' at both the organisational level and at the technological level from our own resources, an institutional set up could be envisaged. Firstly, on the lines of the Shipping Development Fund Committee but preferably with wider responsibilities, an autonomous National Shipbuilding Development Board should be constituted with overall responsibility of laying down national targets in shipbuilding and to co-ordinate allied development priorities, initiate advance project planning, approve actual development schemes and sanction necessary funds. Members of such an autonomous high powered body should be drawn from the fields of shipping, shipbuilding and ship designing, financial and general administration. Even the participation of the Indian Navy in this body should be welcomed.

National Technological Centre

Technologically supplementing this Board but fully autonomous in character, there should be a National Ship Technological Centre for Ship Designing and Shipbuilding. The immediate task of this institution would be to provide indigenous specialised shipbuilding and engineering cansultancy for the layout design and development for the two proposed shipyards at Haldia and Nhava Sheva. This institution would also work as the Central Agency to draw up in engineering details the blue prints of various shipyards over the decade. Where necessary, the institution would work as design consultants for particular ships. The application of computer science in ship technology is phenomenally increasing in all advanced shipbuilding countries. Since very modern computing facilities are available in India today, this institution, with little cost, could immdiately embark upon the development of necessary computer technology for ship design and building. The author recently visited the Ship Research Institute in Denmark which has developed a very wide programme of ship computation. Our Technological Centre could also play a leading role in the introduction of standardisation in the shipbuilding industry and produce standardised designs. In course of time, given the resources, the institution could set up fully developed branches in all important areas of ship technology, e.g., ship design, ship production and planning, ship hydrodynamics, ship structure, ship machinery and independent ship computer centre. Lastly, there could also be another secondary benefit accruing from the establishment of a National Ship Technological Centre. Since 1957, trained Indian Naval Architects are graduating from the Indian Institute of Technology, Kharagpur. A considerable number of these young Naval Architects are migrating abroad every year for better opportunities. The proposed National centre could offer some stimulating and challenging work to these young men and help stem this so-called brain drain.

AUTHOR'S POSTSCRIPT

Dated 24th October 1974

In updating 'Indian Shipbuilding Industry' from April 1972 to October, 1974, it should firstly be mentioned that the total gross tonnage of Indian Shipping is today approaching 4 million g.r.t. mark. However, in view of world-wide expansion in shipping, in the chart of the world shipowning nations, the Indian shipping is still hovering around 16th position as before. The largest Indian ship today is Gotama Budha of 1,27,500 DWT or 72,800 g.r.t. It should also be mentioned here that Fifth Five year Plan target of Shipping 8.6 million g.r.t. in operation and one million g.r.t. on order with the shipyards. The projected target does appear to be rather high. But, there is, no doubt, that the Indian Shipping is today poised for big expansion.

In the field of merchant shipbuilding, some good progress has been made. In 1974, the combined shipbuilding capacity is expected to reach a figure of about 45,000 g.r.t. The construction of the Cochin Shipyard Ltd., in the public sector has made some tangible progress and the production of 70,000 DWT or 45,000 g.r.t. Bulk Carrier is to actually start in 1975. The Garden Reach Workshop Ltd., another public sector shipyard in Calcutta, is about to start production of 26,500 DWT Bulk Carrier. Summing up, it may be said that the four large public Sector shipyards—Hindustan Shipyard, Cochin Shipyard, Mazagoan Dock and Garden Reach Workshop will be together producing over 100,000 g.r.t. shipbuilding in the next few years.

There is still no proposal of constituting a National Shipbuilding Development Board to continuously examine and improvise the shipbuilding industry. However, an Expert Committee appointed by the Ministry of Shipping of the Government of India is understood to have tentatively selected a number of promising sites for new shipyard, e.g., one site in Saurashtra, Tuticorin in Tamilnadu, Pradeep in Orissa and Haldia in West Bengal. The recommendations of this Committee are now being re-examined by foreign shipyard consultants and it is the declared intention of the Government to take advance action on starting two new shipyards in the Fifth Five Year Plan period.

In the technological field of shipbuilding and ship-design, there are two encouraging development recently. An indigenous Ship Classification Society, to be named, Indian Register of Shipping, is being soon formed in collaboration with three leading foreign Classfication Societies. The prime function of the Classification of ship is to examine and approve structural design plans and survey construction of ships so as to ensure engineering quality and safety. The formation of an Indian Classification Society will, therefore, give a push forward to the indigenous shipbuilding technology. The second development is that the Government of India is about to constitute a Central Marine Design and Research Organisation near Bombay. Much spade work has already been done for the formation of this organisation whose early formation will go a long way to develop design consultancy in ship design and supporting ship research work.

MERCHANT SHIPS DURING WAR AND PEACE

CHAPTER X

H. M. Trivedi

IT is not necessary to start with stating the obvious that the merchant navy of a country is a second line of defence. This is a recognised axiom ever since the start of the Imperial Era in the late 18th Century. That era has fortunately ended but the role of the merchant navy as a second line of defence has not diminished but in fact has enhanced. I cannot do better than start with a quotation from the statement issued by the Prime Ministers of India and Bangladesh on 19th March, 1972 :

"The two Prime Ministers declare that the Indian Ocean area should be kept free of great power rivalries and military competitions. They express their opposition to the creation of land, air and naval bases in the area. It is their conviction that this is the only way of ensuring the freedom of navigation and safety of the sea lanes in the Indian Ocean for trade and commerce which is vital to the development and stability of the littoral states. The Prime Ministers further express their determination to endeavour to make the Indian Ocean area a nuclear-free zone."

Apart from the obvious anxiety to keep the Indian Ocean area free of great power rivalries, the important part of the statement is the reference to the safety of the sea lanes in the Indian Ocean for trade and commerce which is vital to the development and stability of the littoral states. It is the emergence of this concept which in the coming century will underline the importance of the merchant navy as the second line of defence.

Past History

The history of the last four centuries is replete with illustrations of the merchant navy as a second line of defence. For three centuries prior to the middle of the 19th century, it was sea power not only of the armed navy but merchant ships which constituted the spearhead for political domination which the then emerging industrial powers of the West established in far flung areas of the world. " Britannia Rules the Waves," epitomised not only the naval power of Great Britain but also the power of its merchant marine. All of us are only too familiar with the dual role of the East India Company in combining the primary objective of trade with political penetration. Its subsequent history illustrates how the merchant navy played its role in the maintenance of political suzerainty.

In a treatise " Investment in Empire," Dr. Thorner has traced the history of the establishment of Railways in India by the East India Company. While the produce of India was thus moved to the sea-bound, the East India Company immediately recognised the primary need for a direct sea link between India and the West. A titanic struggle was waged in the British Parliament for establishing such a link. It was the successful culmination of this Parliamentary struggle and the ultimate recognition by the British Government of the role of merchant navy in maintaining political dominion that led to the construction of the Suez Canal and the grant of Royal Charter to the P & O Steam Navigation Company. The grant of Royal Charter itself emphasised the role of merchant navy. It is said, and perhaps with great justification, that the first World War was essentially won by the merchant navy of the Allied Powers. The first Merchant Shipping Act of the U.S. enacted in 1916 in its Preamble specifically recognises the importance of the merchant navy for the foreign seaborne commerce of the United States in times of peace and war.

In the Second World War, Great Britan suffered heavy losses in North Atlantic within the first few months of the war, from the operations of the German U-Boats. A stage was reached in the middle of 1940 when Great Britain was left with supplies to feed its population, for less than ten days. Addressing the men of the merchant navy, the great Winston Churchill is reported to have said: "The merchant navy which is the second line of defence has become the front line under attack. I have no weapons to give you except your skill and courage."

There can be no more vivid illustration of the role of the merchant navy as a second line of defence than the massive effort by the U.S.A. in constructing the "Liberty" ship. As the war progressed, a ship was launched every day. The ship was appropriately named "Liberty" as the history of the war showed that freedom was preserved by the part played by "Liberty" in moving men and ammunition. For 20 years after the War, the "Liberty" played a significant role in all local emergencies around the world—apart from depressing liner freight rates.

On a microscopic scale the history of our own merchant navy illustrates the same axiom. The ship which sailed on 5th April 1919, s.s. "Loyalty", was a hospital ship. It was a merchant ship converted into a hospital ship during the first world war. Practically the whole of the Indian merchant navy on the Indian Register was commandeered during the second world war. The Scindia Company lost over 80% of its then existing fleet. The small ships of the Bombay Steam Navigation Company, of less than 3,000 tons, were armed and played a significant role in the carriage of men and materials to Aden and Singapore. The lack of merchant ships during the Bengal famine of 1943 was a prelude to the historical statement in the Government Resolution in 1947 that "for a country with a large coastline such as India, its merchant navy is distressingly small." In the 20 years both before and after 1947, there was not a single occasion when the late Shri M. A. Master, in pleading passionately for expansion of Indian shipping did not, at the cost of being criticised for repetitive emphasis, use the phrase that "the Merchant Marine is the Second Line of Defence."

Recent Experience

Coming nearer in recent history, I was personally accociated at the time of hostilities with Pakistan in 1965 with a part of the organisation for maintaining the flow of Indian trade. The role of the Indian merchant marine in the recent war with Pakistan, however small compared to the brilliant exploits of the Navy, was significant. The emergency arrangements which the Shipping Corporation of India had to contemplate for the movement of oil and the movement of men and materials following the end of the war, are recent events.

In an address to the Institution of Marine Technologists, Admiral Nanda, Chief of Naval Staff, said: "The word 'Sea Power' may seem to imply only the use of country's naval strength in times of war. Too seldom is it recognised that the Sea Power in its total concept embraces not only the control of the surface of the sea but Sea Power is composed of all those elements which enable a nation to use the Ocean advantageously both in peace and in war. These elements consist of the Navy, Merchant Shipping, Fishing Fleet etc. Contemporary role of the navy and the Merchant Marine can best be understood within such concept of the Sea Power. They are in fact two arms of the same body."

Concept of Sea Power

In an article entitled "The Unending War," the 'London Economist' says:

Sea Power does still count. It is no longer a final arbiter of relations between the powers. Even for the powers that need the sea most for the purpose of trade invention of the aircraft has turned that page of history but it still seems too much for any major country to leave any important part or piece of ocean in the hands of a potential adversery. This is an unending war.

The geo-political framework of the world is fast changing and new unexpected political alliances are emerging. It is no longer possible to anticipate who, when hostilities break out, will be the friend or the foe. The maintenance of security and stability may require movement of materials on long and tenuous lines of communication across the seas. While a distant land may be a friend, a neighbour may well be an enemy. In this changed framework, the role of the merchant navy gets enhanced.

Role in Times of Peace

Speaking of the merchant navy as the second line of defence, the emphasis is inevitably on its role in times of emergency but its role in times of peace is even more important. If we are to achieve increasing exports and a better economy, a rapid expansion of the merchant navy in all its forms is vital. To twist Winston Churchill's phrase, it may well be that in the near future the Indian merchant navy may prove to be the first line of attack on poverty and for economic betterment.

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In recognition of his outstanding and varied contribution to the development and modernisation of Indian Shipping and port facilities, Shri H. M. Trivedi, Bar-at-Law, an elected member of the Rajya Sabha (Gujarat) and an internationally respected authority on shipping, has now been made Minister of State for Transport and Shipping, Government of India (October 1974).

For many years a senior executive of the Scindias and Chairman of the India-U. K./Continental Shipping Conference, Shri Trivedi was India's representative at several International Shipping Conferences, Chairman of the Karamahom/U. K. Conference for several years, India's delegate to the Transport and Communication Commission at the U. N., Adviser to the Indian Employees' Delegation to the I.L.O., an elected Trustee of the Bombay Port Trust (1967, '67 '71), Director of the National Shipping Board and Chairman of the Government of Gujarat's Committee on Development of Gujarat ports. He held numerous important positions in the Banking, Insurance, Labour and Seamens' Welfare bodies. He has published several masterly works on Labour and Factory Legislation, Shipping and Industrial Capital in India, reflecting his wide range of experience.

The author acknowledges his thanks to Shri H. M. Trivedi and to *Indian Shipping* for permission to reproduce the article.

COMLEMENTARY ROLE OF THE TWO NAVIES

ADMIRAL SURENDRA NATH KOHLI, PVSM

Before taking over as India's Chief of the Naval Staff, Admiral Surendra Nath Kohli (b. 1916) was Flag Officer Commanding-in-Chief, Western Naval Command. Earlier, he was for two years, the Commandant of the National Defence College.

Trained in the U.K. and commissioned into the Royal Indian Navy (1938), Admiral S. N. Kohli saw action during World War II in the Persian Gulf and in the Far Eastern Theatre. His feats in ship handling in Sliema Greek at Malta in competition with numerous Royal Navy Destroyer captains are still remembered with admiration. He commanded INS ***Mysore*** in 1958 as the Flag Captain, was thrice Director of Naval Plans and our Naval Adviser in the U.K. Rising to Flag rank in August, 1965, he commanded the Indian Fleet from 1967 to 1969. He was awarded the Parama Visishta Seva Medal for exceptional and distinguished service in 1968.

During the December 1971 conflict, the Western Fleet under his intrepid and imaginative leadership delivered crippling blows on the Pak Navy. The daring raids on Karachi have passed into the annals of naval warfare as master strokes of offensive policy. He was awarded the Padma Bhushan in January 1972.

Admiral and Mrs. Kholi and their three vivacious daughters take a keen interest in the welfare of naval personnel and their families.

Here, the Admiral gives succinctly the naval angle on the role of merchant ships during war.

We acknowledge our thanks to the Admiral and to the editor and publishers of ***Indian Shipping*** for kind permission to publish this essay (originally published in their April, 1972 issue.)

COMPLEMENTARY ROLE OF THE TWO NAVIES

Admiral S. N. Kohli

CHAPTER XI

MARITIME trade had its inception when the first primitive man stepped ashore in a neighbouring territory from his crude boat and bartered some posession of his own for a possession of his neighbour. With the gradual establishment of civilisation this bartering or trade increased. Then came the sailing ship, to stay for many hundred years until the potential energy of coal and later of oil was appreciated and harnessed. Gradually the use of the sea for commercial communication became so valuable and indeed indispensable that efforts to deny it to others became a classic weapon of war and diplomacy.

Some nations may be completely dependent upon external supplies, others less so. But it is a truism to say that there are very few nations today who are not in some way or the other thus dependent. The key role that the Merchant Navy plays in the development and prosperity of a nation is therefore apparent. Indeed the merhant navy is an important element of what constitutes the sea power of a nation. Stephen Luce, Mahan's mentor, said at the turn of the 19th century—" Above all, a Naval Officer must be convinced that shipping is the other arm of sea power, its right arm."

We are all convinced that the sea is more important to India today than it has ever been in the present century. Sea-centred in an oceanic world, India's prosperity depends on how well the oceans are made to serve the people of this country both economically and militarily. In peace, Indian shipping which is still inadequate, uses the sea as a highway to the rest of the world for both the source and the market for materials and goods, In war, the ability of our shipping to use the same high way for commerce depends on the measure of protection that the Navy can afford to our shipping and on the ability of the Navy itself to keep this highway open. To quote a great naval thinker," The influence of the Government will be felt in its most legitimate manner in maintaining an armed Navy of a size commensurate with the growth of its shipping and the importance of the interests connected with it"

Although these words were spoken many decades ago, there is now an awareness in our country for the growth and rapid development of not only the Navy but also our merchant marine and our shipbuilding industry. Together, the two navies carry immense power, prestige and influence, and secure tremendous gains for the country.

Over the years merchant navy has increased from 172 ships in 1950 to 252 in 1971. During the same period the Indian Navy has grown from 13 vessels to a mere 23 vessels capable of escorting merchant ships on the high seas during a war. As a result, the Navy was unable to protect our merchant ships during the recent war with Pakistan. In a short conflict like the last one this may not be of consequence, but in a protracted war the introduction of the Convoy System would be very necessary to protect our merchant men from submarine attack and armed raiders. It is incumbent therefore that we increase the size of the Navy rapidly and considerably if we are to protect our ships at sea.

One cannot over-emphasise the meaning of the partnership that must exist between the merchant navy and the fighting navy to bring about a purposeful response to our security problems. Thanks to the Indo-Pak war of last December, we now have a clearer persepective of what sea power means. We have all witnessed how the Pakistani Navy and its merchant marine failed; they failed to complement each other, for if one fails the other must fail too. The stoppage of supplies and their trade hastened the collapse of the ruling junta and brought about the defeat of a formidable combination of men in arms.

Significant Services of Merchant Navy during War

On the other hand, once the Indian Navy gained command of the seas, our merchant navy was able to carry out its primary function without hindrance. These Indian vessels flying the 'Red Duster' kept our trade going and consequently our wheels of industry moving. Not only that, our merchant ships fulfilled other functions as well when called upon to do so.

In a future war similar demands may will be placed on Indian shipping. First and foremost of these was the requirement to employ merchant ships in the role of fleet auxiliaries in both Western and Eastern theatres of the war. Some ships were therefore requisitioned and suitably armed and equipped to take part in Fleet Operations. Then there was the requirement of carrying troops in the Eastern theatre. Here again, merchant ships were employed for these tasks and the manner in which they executed them will be written in letters of gold. On termination of hostilities, merchant vessels were employed for transporting Pakistani prisoners of war from Bangladesh to India.

Thus even in a short 14-day war the merchant navy played a significant role. The demands on it would be even greater in a war lasting a few months. It will be readily appreciated that our capacity to sustain a long war would depend on the availability of strategic materials. These materials would of necessity have to be transported across the seas by our merchant ships. Here lies the true significance of our overseas trade—trade which would have to be protected at all times with great hardship and perhaps loss by the Navy, but actually carried by equally staunch Indian vessels.

We may also be committed to transporting such strategic materials in support of a friendly neighbouring country. And let us not forget our outlying island territories, particularly the Andamans and Nicobars, which are entirely dependent on sea lanes of communication for their very existence.

As Naval Auxiliary

The concept of equipping merchant ships defensively is an old one. In the two World Wars a number of merchant ships were fitted with light to medium guns and deployed to augment the escort force of convoys. History also teaches us that in the past armed merchant ships have been used as disguised surface raiders. The story of raider operations during the two world wars makes fascinating reading and shows their value when used with skill and determination. In our stategic environment the possiblity of using our merchant ships in these roles cannot be completely ruled out in the future. In order to prepare for such a contingency, the design and construction of merchantmen should allow for the strengthening of the decks for fitment of armament, radar and communication equipments. This will ensure that the merchant marine can, with the least possible delays, fulfil its new role as a Naval Auxiliary should the occasion arise.

Last but not the least is the fund of uself information which is made available to us by Masters of our vessels calling at foreign ports. Such information, after careful sifting, can greatly assist the Navy in planning maritime operations.

It is not the big vessels alone that play their part in war. The smaller craft like trawlers, tugs, mechanised barges, oilers, launches and pilot vessels also play an important role in local naval defence operations, Examination Service, harbour servicing facilities etc. Indeed, during the recent hostilities fishing trawlers were requisitioned, suitably armed and equipped, and used for patrolling in the approaches to harbours. In Bombay, the Pilot Vessel "Venu" was used as the Examination Vessel.

The experience of two World Wars indicates that in any protracted war, if the fighting Navy is to be increased quickly, the officers and men for this sudden expansion would have to be drawn from the only trained source available—the Merchant Marine. Such men would form the Indian Naval Reserve.

Contribution of Sailing and Fishing Vessels

A significant contribution is also made by sailing vessels and fishing craft during hostilities. A pre-emptive clandestine attack on our Naval units while still in harbour and on vital port installations was a major element of the threat posed by the enemy.

during the last conflict and will continue to be so. Midget submarines and chariots are formidable weapons for these types of attacks, and constant vigilance in the vicinity of our harbours and along the coast is necessary to prevent the enemy from launching such attacks. Crews of our sailing vessels and in particular our fishing community can maintain the necessary vigilance when properly briefed. During the hostilities a large number of fishing villages in and around Bombay were activated and fishing was encouraged in the approaches to the harbour. This provided an effective barrier against penetration by enemy submersibles. The Navy also operated Arab dhows in the harbour defence role.

Need for Closer Liaison between the Two Navies

The control of shipping in war becomes necessary to ensure that ships are employed to the best advantage in the national effort and to enable shipping to be easily protected. It is likely that in a future war, merchant ships may well be sailed in convoys protected by Naval units. In peace time the merchant navy is fully engaged in its commercial activities and few opportunities arise to exercise the operations which may be necessary for its protection in war. It is, therefore, vital that the Navy and shipping interests remain in the closest touch and study the problems involved so that operations can be conducted smoothly.

This brings me to stress the importance of fostering good relations between the two navies. Unfortunately, it is in this sphere of human activity that a great deal remains to be done. In the past, hardly any contacts, social or otherwise, were established between the two navies. Naval Headquarters maintained liaison with the Ministry of Transport and Shipping but very few discourses took place at lower levels. In 1967 a scheme was put into effect whereby Naval Officers were attached to merchant ships for a round trip overseas. This scheme appears to have fizzled out. The only time when merchant navy officers came in contact with naval officers was when the latter were invited by the Nautical and Engineering College, Bombay, to deliver lectures on Naval

Signals, Naval Control of shipping etc. to the merchant navy officers preparing for MOT Examinations.

The recent war has brought the two navies much closer. There is a greater awareness of defence matters among merchant navy officers. I have no hesitation in saying that the Naval control of shipping was effective because of the tremendous effort put in by all concerned to create mutual uderstanding between the Navy and the shipping circles. It was this understanding that permitted effective co-ordination of defensive measures at various ports in the country.

It would be a folly to rest on our oars at this juncture. I firmly believe that we must continue our efforts of further establishing good relations. In this regard, I have a few suggestions to offer. First, I see no reason why greater intermingling of Naval, "Dufferin" and DMET Cadets cannot take place in such fields as sports, outdoor excursions and other social activities. This could well be extended in the professional field whereby Cadets of the "Dufferin" and DMET could be taken to sea in war ships for a couple of days, and the Naval Cadets in merchant ships on short coastal trips.

Secondly, there is a need to create greater awareness amongst the merchant navy personnel at junior levels on matters connected with maritime operation during war. This would be achieved by conducting defence courses both for junior merchant navy officers and for seamen.

Thirdly, I would like to see regular seminars being held at which the two navies can exchange views on modern trends in shipping, new weapon systems, development of our ports and a host of other common interest subjects. This would go a long way in bringing about mutual understanding of each other's problems.

Lastly, the intake of retired Naval officers and sailors into the merchant navy could perhaps be liberalised. I believe some discussions have taken place in this regard. I have no doubt in my mind that defence trained personnel on board merchant ships would prove to be an asset.

In conclusion, I would like to say that we have a great national heritage of the sea. The two images, Naval and commercial, are really one in the full context of a maritime nation. Few, except the seafarer, the ship operator and the professional can observe the meaning of "ships at sea". It is the responsibility of those who do understand—the Naval establishment and the marine industry—to share their knowledge effectively. The true test of the Merchant Navy's Role as a Second Line of Defence would come in a longer war than we have hitherto experienced. The two World Wars have shown us that it is the merchant navy officers and seamen who bear the major brunt, who endure silently. I am confident that our merchant navy will meet the challenge and keep the Indian Red Ensign flying proudly.

TRAINING OF MERCHANT NAVY PERSONNEL IN INDIA

CAPTAIN INDRAJIT SINGH

After passing with a First Class certificate from T.S. *Dufferin* in 1940, Captain Indrajit Singh joined the Scindia Steam Navigation Company, obtained Mate's and Master's certificates of competency in the U.K. and was the Chief Officer in the first Indian-built ship S. S. *Jalausha* on her maiden voyage to the U.K. Later, he joined the Training Ship *Dufferin* (Government of India) as Executive Officer and served in various grades from 1949 to 1962, when he was promoted as Captain Superintendent of Rating Training Ship. He was responsible for reorganising training scheme of Engine Room crews. He introduced general purpose crew manning training scheme on T. S. *Bhadra*. He served on the Expert Committee on Unemployment among Indian Seamen.

Deputed to Singapore, he helped in evaluating Pre-sea Training Scheme on T. S. *Singapore* under the Colombo Plan and also in suggesting measures for improving the performance of Indian General Purpose crews on large Indian Tankers.

In 1971 he was Captain Superintendent of Merchant Navy Officers T. S. *Dufferin*, and in 1972, he was appointed as first Captain Superintendent of T. S. *Rajendra* which replaced *Dufferin*. He was deputed as Government of India delegate to the Second and Third Session of IMCO Sub-Committe on standards of Training and watch-keeping held in London in March and December 1973. Here, he examines in depth the problems of nautical education in India in the context of the growth of our merchant fleet and the rapid changes in international merchant navigation—an informative essay especially valuable to the youth seeking a marine career.

TRAINING OF MERCHANT NAVY PERSONNEL IN INDIA

Captain Indrajit Singh,
M.I., Mar. Tech., Master Mariner

CHAPTER XII

INDIA today is making rapid strides in developing an efficient and balanced merchant fleet. Currently, it has about 350 ships consisting of cargo liners, large and medium tankers, OBO's, product carriers, ore-carriers, bulk carriers and passenger liners. Furthermore, current projections indicate that the nation is committed to continued expansion of our national tonnage. These modern vessels must be manned by competently trained navigating officers, marine engineers and ratings. The Government of India has, by and large, taken the entire responsibility of training the Merchant Navy personnel. For this purpose it has established various nautical institutions which include the Training Ship "Rajendra", Directorate of Marine Engineering Training. Lal Bahadur Shastri Nautical and Engineering College and the three rating-training ships "Bhadra", "Mekhala" and "Nau Lakshi". In addition. the Government also allows a limited number of personnel to enter the Merchant Navy as direct deck cadets, engineer apprentices and ratings. As a special case the Government has approved the training of certain categories of ratings in institutions run by Seamen Welfare Foundations.

Organisation of a Merchant Vessel

The picture that the vast majority of our people have of the organisation and operation of a merchant vessel is indeed very vague. In fact, this above all, restricts the flow of our youth to sea career which has much to offer. The organisation essentials are that the officer in command of the ship is the Captain or the Master. He has two main operating departments under him, the Deck and the Engine. The Deck Department comprises the Chief Officer, the Second Officer and the Third Officer and in large and sophisticated vessels, a Fourth Officer. These officers hold various grades of Certificates of Competency issued by the Government of India. The Engine Department is headed by the Chief Engineer who is normally assisted by five experienced engineer officers holding appropiate certificates of Competency. The Deck Officers are responsible for safe navigation of the vessel, and discharging of cargo, stability and maintenance of the ship loading and safety of the vessel, cargo and the crew. The engineers ensure safe operation and maintenance of propelling and auxiliary machinery, electric systems, air-conditioning plant, refrigeration units and in fact everything machanical on board. The Deck ratings are handy men required to do a variety of ordinary and skilled work. They paint the ship, steer it, keep watches, overhaul cargo gear and make the vessel ready for the ports of call. The Engine Room ratings keep watches in the Engine Room and help the engineers to maintain and overhaul every type of machinery on the vessel. Some of the modern vessels employ general-purpose crew. Such seamen are trained to carry out maintainance work, watch-keeping duties and other general work either in Engine Room or on Deck.

History of Nautical Education

12th January, 1922 has a unique significance in the history of nautical education in India. It was on this day that Sir P. S. Shivaswamy Iyer introduced his historic Resolution in the Central Legislative Assembly for the appointment of a committee to prepare a scheme for the development of national shipping and to establish a nautical training institution in the country. This resolution, supported by strong public opinion, directed the nation on a course of building our merchant navy and paved the way for the manning of our ships by competently trained Indian officers and crew. The follow-up action was predictably delayed for reasons that are inherent under a foreign rule. Obstacles and handicaps were many. But these were overcome and Indian Mercantile Marine Training Ship "*Dufferin*" which was commissioned in Bombay in December 1927, admitted the first batch of 29 cadets who are fondly remembered by today's mariners as the ' poineers '. With the passing of time, this training ship grew in stature and became a leading institution in the field of nautical education. The success story of the " *Dufferin* " is inextricably linked with the efforts of the eminent and influential men on the Governing Body, the dedication and enthusiasm of the staff and in the ultimate analysis, by the excellent performance of the cadets themselves.

The original vocational and academic sequence was rigidly maintained till 1934. It was in that year that the first ambitious innovation in the training programme was introduced. The Government of India accepted the recommendation of the Governing Body to make the "*Dufferin*" an institution for training both executive as well as engineer cadets. In fulfilment of the national aspirations of the times, the new training policy had important implications. The dire need for the creation of a nucleus of properly trained marine engineers for our merchant navy was amply taken care of by this revision. In 1935, the "*Dufferin*" for the first time, enrolled 25 engineering cadets in addition to 25 navigating cadets. The pattern of training continued till 1947.

Post-Independence Era

When India attained independence the "*Dufferin*" was the only regular training institution for educating and training qualified young men to become certificated navigating and engineer officers. The Government of India immediately realised that positive steps must be taken to ensure adequate supply of properly trained officers to man the expanding fleet of merchant ships. As a first step, a Merchant Navy Training was constituted to evaluate the existing pre-sea training programme and to recommend changes that would make the professional skills of our merchant navy officers second to none. The committee reassessed and reappraised the existing and likely future trends in the Maritime industry. It concluded that India, geared to growth and progress, must make radical changes and not be content with marking time. It was of the opinion that the existing system of nautical training was narrow in concept and left out too many catagories of sea-going personnel who did not have the benefit of organised training and planned experience required to develop special skills. The recommendations of the committee led to numerous key changes. Firstly, the training on the " *Dufferin* " was reserved for the navigating cadets only. This step along with the reduction in the duration of training period from 3 years to 2 ensured an adequate supply of properly trained deck officers. The second significant change was to establish a Marine Engineering College at Calcutta with a branch at Bombay to train increased number of engineer cadets. Thirdly, a Nautical and Engineering College was founded in Bombay. This post-sea institution was considered most necessary to impart advanced technical training to navigating and engineer officers serving sea by providing them with the necessary instructional, library and laboratory facilities to enable them to appear for the Government of India examinations for the various certificates of competency. Another vital recommendation of this expert committee resulted in the commissioning of three rating-training ships " *Bhadra* ", " *Mekhala* " and " *Nau Lakshi* ". Thus for the first time an effective training programme with a heavy accent on practical work was introduced for the benefit of our ratings. It enabled them to perform their duties on merchant ships with grater confidence, efficiency and responsibility. The results of these far-reaching innovations, immediately after our independence, have been remarkably rewarding in terms of increased efficiency and availability of qualified personnel for the sea profession. In fact, rapid expansion of national tonnage would have remained a dream if professionally trained man-power was not always readily available to the shipping industry.

Since the completion of various projects as envisaged in the recommendations of the M. N. T. Committee, numerous changes have been taking place in the world of shipping. From time to time, training structures were rearrranged in individual training institutions in order to match the needs of the profession. In the 60's, however, merchant shipping throughout the world was caught in the grip of technological revolution; the ships became larger and faster and their equipment changed beyond recognition. With the increasing application of science and sophisticated technology in the merchant ships, the need to upgrade the professional competence of sea-going personnel was keenly felt. Obviously, the beginning had to be made at the level of pre-sea training institution and carried upwards to all levels. The Government of India, therefore, constituted a Merchant Navy Training Board which was entrusted with the responsibility of identifying new requirements and taking urgent measures to ensure that our training system continued to be sound, effective and meaningful.

In consequence of this policy, the " Dufferin" which had become too old and could not be geared to modern technological changes was replaced by the newly constructed modern training ship " *Rajendra* ". This was a giant step in the direction of better training of our future navigating officers.

The knowledge required of a marine engineer increased rapidly and resulted in the recommendation of sweeping changes in the existing training scheme of cadets in the Directorate of Marine Engineering Training. At the same time, in order to cope with the acute shortage of sea-going engineers it was decided to induct mechanical and electrical engineering graduates in the Merchant Navy.

The number of Merchant Navy officers availing of training facilities at the Lal Bahadur Shastri Nautical and Engineering College was increasing from year to year. Simultaneously, there was an increased demand for hostel facilities. It was in this context that an impressive and spacious building was constructed at Hay Bunder, Bombay, to house the college and the student hostel. Opportunity was also taken to provide the institution with uptodate training equipment and to introduce many useful short training courses or the benefit of officers at sea.

The wind of change also affected the three rating-training ships. The duration of training course was increased to six months and the content of the syllabus was thoroughly revised. The new syllabus provided the much needed flexibility and enabled our ratings to work on merchant ships both as traditional deck and engine crew and as general purpose crew.

Entry as a Rating

Majority of the young men who wish to join the Merchant Navy as deck or engine room ratings have to first enrol in any one of the Ministry of Shipping and Transport rating-training ships. The T.S. "*Bhadra*" is located at Calcutta; the T. S. "*Mekhala*" at Visakhapatnam and T. S. "*Nau Lakshi*" at Navlakhi, Gujarat. The minimum academic qualification for the candidates is 8th Standard and age, between 18 and 22 years. The training period is of six months duration and the entire cost of training is borne by the Government of India. The training syllabus is so designed that it admirably serves the purpose of preparing the trainees for serving in modern merchant ships. A few young men enter the profession by receiving training at a training establishment run by a Welfare Foundation at Nhava, Bombay. A large majority of saloon or catering department ratings find employment in the Merchant Navy after gaining suitable experience in catering industry ashore. There are, however, certain experimental schemes which provide courses in cookery and steward's duties, but these have yet to be expanded and put on a firm footing.

After completion of training, the ratings have to register their names with the Seamen's Employment Offices which arrange to appoint them on different ships according to a carefully worked rotational employment system. It will be interesting to know that besides finding employment on Indian ships, thousands of seamen are serving on foreign ships. By dint of their hard and honest work these men have made a name for themselves and they are in great demand by the shipping industry all over the world. The ratings are promoted to higher ranks according to experience and merit. Some of them who possess higher general education, particularly in mathematics and science, have qualified to become watch-keeping officers. The pay scales and working conditions of ratings have improved considerably in the recent past. Government has established Seamen's Employment Offices at Bombay and Calcutta to be specially in charge of recruitment and employment of ratings on Indian as well as foreign ships.

Navigating Officers

Any young man who is desirous of commanding merchant ships must first start as a navigating cadet. There are several methods available to achieve this objective. A candidate may apply directly to any shipping company and if he is selected he can be employed as a direct cadet in any of the company's vessels. Entry into the Merchant Navy in this manner is controlled by the Government in order to ensure that Government rules regarding basic academic qualification and age are strictly complied with. Moreover, it helps to regulate the availability of trained manpower and to set acceptable professional standards. This system has, however, a major disadvantage in that the direct cadets do not have the benefit of an organised training in the fundamentals of nautical knowledge and it often results in haphazard development of the cadet's professional knowledge. The recognised and thoroughly tried out method of entry into the profession is through a pre-sea training course on the Training Ship "*Rajendra*". The two-year training course is carefully designed to provide cadets the fundamentals of nautical education and to develop in them discipline and dedication to duty which are essential attributes for a successful career at sea.

The applicant for the "*Rajendra*" must meet the following requirements:

i) Be not less than 16 and not more than 19 years of age on the first September of the year of entry.

ii) Successful completion of higher secondary examination or its equivalent with Physics, Chemistry and Mathematics as elective subjects.

iii) Be in good physical condition with normal vision in both eyes and normal colour perception.

Candidates are selected on the basis of an all-India qualifying examination in Mathematics, Physics, Chemistry, English and General Knowledge. This examination is held towards the end of May every year in twenty major cities of the country. Competitively ranked candidates who have passed the written test are called for a medical examination and an interview before a Selection Board at Calcutta or Bombay. At the interview, candidates are evaluated in their aptitude, personality, smartness, verbal fluency, character, leadership potential and interest in extra-curricular activities.

Government of India bears the major portion of the expenses towards training. However, the parents are required to pay about Rs. 200 per month for tuition, boarding and lodging and other sundry expenses. In addition they incur an expenditure of about Rs. 1,500 towards cost of uniform at the time of joining the training ship. In order to aid parent with limited financial means, the Central Government, State Governments, shipping companies and private Trusts have instituted a large number of scholarships.

Life on board the training ship is tough. Cadets are required to meet high standards of conduct and discipline. Semi-regimental pattern of living conditions prepares these young men to face the rigours of a demanding sea-career. The training programme provides leadership experience and develops in the cadets a sense of responsibility and self-confidence. Every endeavour is made to promote the growth of a cadet as an integrated personality. The "*Rajendra*" is growing in stature and it is becoming increasingly known in the country and in the maritime world. The ship is proud of its distinguished alumni who are serving with distinction both at sea and ashore.

Immediately after the completion of their training, the cadets are employed by shipping companies for further practical experience on sea-going vessels. By the time these young officers reach the age of 22 or 23 years and have passed their professional examination, the success story of their sea-career is well and truly launched. They begin to draw handsome salaries and their work becomes interesting and rewarding. During the course of another ten years, these officers pass higher professional examinations and gain further experience in sea craft and qualify to command ships. The salary and work conditions improve progressively. Most of the shipping companies have modern approach to the restricted life at sea. The officers are, therefore, given four months leave for each year of sea service and their wives and children are encouraged to accompany them during the sea voyages.

Engineer Officers

There are numerous recognised methods that our youth can take to qualify as marine engineers. The best and the most desirable one is to qualify and begin a four-year training course at the Directorate of Marine Engineering Training. This training scheme has been formulated with great care and it has been functioning effectively for more than two decades. Further, it has the advantage of being under constant review. During the training period the cadets attend theoretical lectures in the marine engineering college and simultaneously work in major marine workshops to gain practical workshop experience. The basic entry requirements of the candidates for joining the D.M.E.T. are similar to those of cadets seeking entry into the Training Ship " *Rajendra* ". Over the years the the D.M.E.T. has come to be recognised as an institute of high repute. It has passed out more than 1500 cadets who are manning our merchant ships with great distinction. These marine engineers are in demand at sea as well as in engineering industry ashore for reasons of their competence and result-oriented outlook. In recent years there is a trend among gradate engineers in mechanical and electrical engineering to take to sea career. Such graduate-engineers are required to undergo practical training for 8 months in marine workshops before employment as junior engineers on merchant ships. In addition, the shipping industry continues to employ a small number of marine engineers who have completed four years of engineering apprenticeship in marine workshops.

Conclusion

Indian Shipping has to contend with intense and world-wide competition. It is meeting this challenge by acquiring new, sophisticated and specialised ships. However, it is imperative that the shipping industry overcomes conservative resistances and adopts bold new methods for safe and economic operation of new ships. Such radical changes demand that training institutions became respective to new ideas and they be allowed to make experiments in training programmes and training methods.

Seafarer's life and his opportunities for advancement have changed beyond recognition and brought in its wake a serious problem; shortage of merchant navy officers. This problem has reached serious proportions and has even left training institutions depleted of competent training officers. It is of vital importance that urgent remedial measures are taken in this behalf. It is hoped that nautical training institutions will continue to play a major role in the achievement of our national aspirations in the challenging years ahead.

PROFESSOR S. VENKATARAMAN

Professor S. Venkataraman, retired as Principal, Andhra University College, Waltair, in 1963. An outstanding teacher of Law for 33 years, he was President of the Faculty of Law and Head of the Department of Law, Andhra University. Among his several notable publications is ***A Treatise on Hindu Law.*** He edited U.N. Mitra's well-known Limitation Act and the Madras Law Journal. From 1971 he has been editing the Supreme Court Law Journal.

We owe our thanks to Professor S. Venkataraman and Shri Pavitran, Bar at Law, editor, Eastern Journal of International Law, (Madras) Quarterly organ of the Eastern Centre of International Studies. (July 1974) in which this excellent analysis first appeared.

—Editor & Publisher.

INDIAN OCEAN AS ZONE OF PEACE AND EMERGENT IRAN

Prof. S. Venkataraman

CHAPTER XIII

Introduction

THE concept of a peaceful Indian Ocean was first visualised by the summit conference of non-aligned countries at Lusaka in 1970. The countries abutting the Indian Ocean are all either undeveloped or underdeveloped countries. Apprehensions have come to be felt that if the peace of the Indian Ocean was jeopardised by the great powers acquiring or developing naval bases particularly for nuclear-powered naval vessels and armaments and making it the scene of nuclear explosions their freedom to develop in their own way would be imperilled. Lessons of history cannot be easily ignored. The Atlantic Ocean was the first to become the arena of naval battles among the great powers to ensure supremacy giving control over the sea-routes for transport of merchandise. "Brittania ruled the waves" for a fairly long period and it brought it phenomenal prosperity, while it lasted. The Pacific Ocean came into the picture next, when Japan joining the Axis Powers during the Second World War put out of action albeit temporarily, the American naval presence in that Ocean based on Pearl Harbour. Since the Second World War, nuclear explosions are being systematically carried out in Oceanic areas which on account of the fall-out of radio-active materials pollute the sea waters and may eventually destroy valuable sea food material which, according to the scientists, is expected to be, in the future, the chief means of human subsistence. Subsequent to the Lusaka resolution of 1970, a resolution sponsored by twenty-seven nations including Sri Lanka, India, Pakistan, Nepal, Bhutan, Malaysia, Indonesia, Yugo-slavia and others for the appointment of a representative Committee to study the implications of a proposal to make the Indian Ocean a zone of peace was adopted by the Political Committee of the United Nations Assembly on December 5, 1972. The study *inter alia* was to have regard to the security interests of the littoral and hinterland States of the Indian Ocean and the interests of any other States consistent with the purposes and principles of the Charter of the United Nations. On April 23, 1973 the United Nations General Assembly adopted a formal declaration on making the Indian Ocean a zone of peace. India and Indonesia, in a joint statement issued on April 3, 1973 have reffirmed that the elimination of great power tension and rivalry from the Indian Ocean would contribute greatly to peace and security in that region. The statement also recalled that non-aligned countries had declared themselves uneqivocally in favour of the Indian Ocean as a zone of peace. *

Attitudes and postures of the great powers

It is one of the harsh facts of international life at the present time that each country reacts to a particular situation in its own way. Among the big powers there is a growing tendency to look at world problems both in their global and regional contexts in hegemonic terms, as though the maintenance of international peace was their exclusive concern. While the United States, the Soviet Union and China have come to recognise the need for a bilateral settlement of their own mutual differences they are not inclined to extend this principle to the resolution of regional conflicts by refraining from any interference with them. President Nixon and Mr. Brezhnev are believed to be discussing regional problems behind the backs of the concerned countries from the point of eliminating the sources of big power frictions. The Arab-Israeli conflicts, the Vietnam problems and the Indo-Pak conflicts are being dealt with in that way. The Prime Minister of India, Mrs. Indira Gandhi, has on more than one occasion stated that

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The "*Hindu*" Madras April 4, 1973. *

it is the interference of the big powers that is delaying the settlement of Indo-Pak tensions. Past history in regard to the attitudes of the big powers also shows that they are not very much worried about reversing their earlier view on any matter should it suit their interests. In 1947, it was the Soviet Union that took the lead in the matter of creating a Jewish State and faced American and British opposition at every turn. On the other hand, specialists in the U.S. State Department on Near East and African Affairs led by Mr. Loy Henderson declared that it was not worth risking American friendship with more than 80 millions of Arabs for the sake of less than 2 millions of Jews. Support of a Jewish State would, according to them, wreck American policy towards the Arabs, and the security of the U.S. required that they should co-operate with the Arabs. During 1917 and 1948, it was Mr. Gromyko, the Russian Foreign Minister at that time, that pleaded the Jewish case. He said: "It would be unjust if we deny the Jews the right to realise the aspiration to a State of their own. During the last war the Jewish people underwent indescribable suffering. The time has come to help these people not by words but by deeds." Mr. John Foster Dulles argued that the U.N. had no legal right to deal with the Palestine problem. A motion to that effect by the Arab nations was however defeated by a majority of just one vote with the U. S. S. R., Czechoslovakia, Poland, Ukraine and Byelo-Russia voting against the motion. The Soviet Union was also the first Government to accord to the new State of Israel full official recognition. But Israel proceeded to set up a democratic Government in an area of feudal Sheikdoms and military dictatorships and they began to favour the western powers without any reservation. This led to a reversal of the Russian attitude towards Israel. On President Nasser becoming the leader of the Arabs in 1966, a pro-Soviet bloc consisting of Egypt, Syria, Algeria and Iraq was mooted. Since then years of Russian effort went to the arming and training of Egyptians. Yet in six days Israel could undo what it had taken the Russians years to prepare. When once the Russians started supporting the Arabs, the U.S. gave all its support to Israel in money, armaments etc.

On the resolution on keeping the Indian Ocean as a zone of peace, when it was considered by the Political Committee of the U.N. Assembly, the big powers, the U.S., Russia, France and Britain, abstained from voting. One of them seems to have considered the means of achieving the objective proposed in the resolution to be unacceptable. Another considered the resolution defective as it had failed to take note of the fact that the security of all sides should be taken care of. According to it, freedom of navigation must be assured to every one as provided in the Geneva Convention of 1958. Another objection was that the resolution had urged for the establishment of a special regime for one area alone of the high seas. The objections revealed an attitude of mind in line with the cold war politics practised by them. Mr. Hamilton Amerasinghe, the Sri Lanka representative, was constrained to remark a propos of the objections raised by the big powers: "If this organisation does not show any willingness to study the problem how can we expect peace" ?

The super-powers between them control and manipulate the world resources, particularly in strategic materials, either directly or through States within their spheres of influence. Since such resources now derived from land are likely to peter out in the long run, the super-powers, in looking out for replacements, are turning their attention to the ocean beds. The ideological rift between them and the knowledge that each of them has an armoury of nuclear weapons the use of which will result in the destruction of the world have led to their spying upon and shadowing each other's activities all the time and everywhere, round the clock and round the year with move and counter-move, thrust and riposte. The ocean areas have thus become involved in power politics. In this relentless process of stratagems trying to score over subterfuges, the Indian Ocean also is threatened with active involvement.

Happenings in Indian Ocean area in recent years

A number of happenings in the Indian Ocean area during recent years have caused apprehensions as to the area being left in peace. It is President Nixon's dream to establish a firm American presence in the old areas of British supremacy and become the new master of the seas*. Nowhere is this dream more urgent to him than in the Indian Ocean, a vast strategic ocean whose waters lap the shores of more than 30 States, many of them rich in oil and other raw materials. The Persian gulf region alone controls about three-fifths of the world's known oil reserves. At one time, Britain controlled all the three entrances to the Indian Ocean : Indonesia with whom the U.S. is reported to be fixing up a number of secret navy deals under the camouflage of 'commercial arrangements'; the Suez Canal which is shut down ; and South Africa, the country most detested by Americanl liberals and Negro leaders. The last route is regarded by the U. S. Government as its one vital interest in the struggle for the control of the seas and access to any mineral resources without which no industrial country can survive. On the oceans, the American world role under President Nixon's administration is bound to expand controlling the sea lanes, establishing a global presence and making its might felt by all nations offshore. The U.S. is moving fast and purposefully to placate the South African regime, while paying court at the same to the underdeveloped nations of Africa. The aim of the United States is to develop a capability to deploy a powerful naval force at short notice whenever required in the Indian Ocean area. It is familiar knowledge that during the recent Indo-Pakistan war a nuclear-powered battle-ship with an auxiliary armada was directed to proceed to the Bay of Bengal area to serve as a deterrent to India. On April 26, 1972 the Indian Defence Minister stated in the Indian Parliament that the U.S. Seventh Fleet had its operational areas extended to the Indian Ocean and the Government of India was of the view that the presence in the Indian Ocean of the naval fleet of countries not bordering the region is unnecessary and is likely to create tension.

Britain, the United States, France and Australia have naval base facilities in the islands under their control in the Indian Ocean region, but not much is known about their precise naval

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1. Nixon Plan for U. S. Naval Supremacy by B. B. Ray Choudhuri; See *Madras Mail*, 17th April 1973.

strength in each of these bases. To the British, however, the Indian Ocean is no longer a military or naval proposition. Almost all the countries in Asia and Africa of whose security she had been in her days as an Imperial Power assuming responsibility have broken free from her and she no longer has port facilities in those countries. The only obligation now sitting upon her stems from her membership of the SEATO—the South Eastern Asian Countries Treaty Organisation and of the CENTO composed of Pakistan, Turkey, Iran and Britain with the United States as an observer. A statement by Mr. Edward Heath, the present British Prime Minister has made it clear that among the interests vital to Britain was the defence of the sea routes around the Cape of Good Hope, that the defence thereof is under the Simonstown agreement of 1955 the joint responsibility of Britain and South Africa, and that Britain was to supply there-under arms for establishing a credible deterrent against the spread of Russian naval presence in the Indian Ocean.

The U.S. policy is not to ignore any area as not being of any strategic importance should there be a war in the future. She has set up a major communications base at Australia's North West Cape and another one in Ethiopia to afford guidance to its Polaris and Poseidon submarines operating quietly in the Indian Ocean throughout the year. She is also constructing a mid-ocean base in Diego Garcia island in the Chagos Archipelago lying about mid-way between Africa on the west and Australia in the east with British collaboration. Under a note exchanged between the U.S. and Britain in 1970, the territory has been made available for fifty years for defence purpose of the U.S. and Britain. The Diego Garcia project, when completed, will form the first U.S. base in the Indian Ocean. The U.S. is also looking for additional facilities in the naval base being rapidly developed by the Australian Government in the Coburn Sound area in North West Australian region both for guarding the country's trade routes and for the defence of Western Australia where an abundance of various types of minerals has been discovered in recent times. Mr. William Laird, the former U.S. Minister for Defence admitted that the

Coburn Sound naval base was vital for the U.S. naval presence in the Indian Ocean region. It may be that the advent of Mr. Gough Whitlam as the Prime Minister of Australia may lead to some rethinking in regard to the assistance the U.S. expected to derive from the Coburn Sound naval base in view of Mr. William's anxiety not to get tied up with the U.S. or Great Britain.

While the U.S. policy is motivated in regard to every one of her moves by an anxiety to contain communism, the Russian policy is to prevent such containment. Her unceasing endeavour has been to avoid encirclement by highly subtle and adroit counter-moves calculated at the same time to expand the spheres of communist influence. The Soviet naval presence in the Indian Ocean started with weather-station vessels and trawlers. In 1967, a Soviet warship and a dozen other vessels arrived in the area ostensibly to trace and recover space satellites. Later on warships and naval vessels have appeared in the Indian Ocean on a number of occasions including submarines and space ships. Russia has secured shore facilities at Hodeida in Yemen, at Aden, and in Socotra island. Mauritius has agreed to provide Russia with permanent tracking facilities for Russian space satellites. In the event of communication through Suez Canal being restored, the Russian Black Sea fleet as also Russia's naval vessels in the Mediterranean area could deploy much more rapidly in the Indian Ocean than they could do now. Russia is making strenuous efforts to reduce the strategic advantages secured by the U.S. in the Indian Ocean region by augmenting her own shore and mid-ocean facilities for refueling and repairing her naval vessels, for training her marine forces in tropical conditions and for providing air-support based on land for her fleet. It is well-known that when the American Seventh Fleet ships were in the Indian Ocean area during the Indo-Pakistan war they were tracked by the Soviet naval vessels. Apropos of Russian naval presence in the Indian Ocean, the Indian Prime Minister stated in the course of an interview to the Australian Broadcasting Commission that India has not given and does not intend to give any bases to any foreign forces including the Soviet Union and if there is a Russian presence a little bit now in this region it is not due to India in any way, nor was the Soviet Union the first country to come there and there are also other presences there.

Whereas till recently the Indian Ocean was an object of attraction mainly to the U.S. and Russia, the detente between the U.S. and China has led to the latter country taking more interest in matters pertaining to the Indian Ocean. The rift between Russia and China is growing. China has become critical of Soviet action in the Indian Ocean. It was recently stated by Mr. Chi that Chin favoured making the Indian Ocean a zone of peace and this reflected the desire of the countries of the region to maintain their national independence and their determination to fight the Big Powers' predominance. China has concluded agreements with Zanzibar and Tanzania.

A significant new factor

A significant new factor is that Iran (formerly Persia) whose naval activity never extended beyond its coastal regions during all the 300 years of its existence is now making a bid to become an Indian Ocean power. According to the Tehran correspondent of the London Telegraph, the Shah is alleged to have said " Iran is becoming an Indian Ocean power. In ten years time we are going to be right in it ". Iran is one of the countries that has lingered on into the modern life after a period of great military glory followed by long eclipse. Its valley scenery set in the midst of dreary deserts has given the country the "reputation of a paradise scented by the rose, made melodious by the nightingale, and offering luscious fruits and nectar to the appetite". The country has considerable supplies of the world's most urgent need for transport-oil. Her rich oil reserves have given Iran a new importance. Iran feels conscious of a glory long past and feels left out. At the fringe of a vast sea of Arab countries it is the only non-Arab State and the only Shia kingdom at that. In its search for an identity, Iran has discovered that one way of achieving it is to become a strong military power in that region. The Shah has therefore embarked on an ambitious arms programme which according to him will make his country the biggest military power in West Asia. It has been remarked that the latest threat to peace in the Indian Ocean region would seem to arise not so much by the predatory powers competing with one another in filling the so-called power vaccum consequent on the withdrawal of the British fleet from that area as by Iran taking upon herself the big responsibility of policing the Persian Gulf and the oceanic approches to it,

Iran *vi-a-vis* the Arab countries

Iran's immediate neighbour on its western frontier is Iraq (formerly Mesopotamia). This area where the Garden of Eden is believed, by many to have existed near the estuary formed by the confluence of the two great rivers, the Tigris and the Euphrates, where Nebuchadnezzar had wrought the marvels of Babylon and where Hummurabi promulgated the first recorded Code of Justice is now administered by an ultra-nationalistic left wing Pan-Arab group. As much a major power as Iran to its east and Saudi Arabia to its west among the Persian Gulf littoral States, Iraq's conflict with Iran is part of a major struggle for supremacy and dominance over the numerous Shiekdoms of the Gulf area. These oil-rich territories, by nature and tradition, lean toward fellow royalist states like Saudi Arabia and Iran and among them the American influence is pretty strong. Russia, on the other hand, has developed strong ties with Iraq including a friendship treaty. Over the years Iran has a long standing dispute over the Shatt-el-Arab, the waterway from the confluence of the Tigris and the Euphrates to the Persian Gulf. Iran has been claiming exclusive rights to the whole river. In addition to this there is the difficult problem of the continental shelf in the Persian Gulf area which has been found to be rich in oil. There is a further complication by reason of the presence of a number of small Sheikdoms along the coast some of which also are rich in oil wealth. Though Iran may appear to be in a stronger positition than Iraq by virtue of its resources and the friendly relationship with Saudi Arabia, Kuwait and Pakistan, Iraq is a leading member of the powerful Arab League and is by no means isolated. Iran has also cause for apprehension of subversion. From South Yemen (formerly Aden) subversionary activities have been promoted against the rulers of States like Kuwait, Bahrain, Muscat, Oman etc., with arms procured to a large extent from Russia and China. Claiming to be the protector of the Persian Gulf region the Shah has been despatching troops to put down the subversionists in the area. Iraq is a large republican State and is not prepared to accept the Shah's claim to control the Gulf. While Iran is establishing large military and naval bases above the Gulf of Oman, Iraq is building its own base at Umm Qasr at the top of the Gulf with Soviet assistance.

It is believed that some of the arms which Iran would be acquiring under the Shah's new armament programme costing about two billion dollars include warships and gun-boats used for patrolling the Shatt-el-Arab. Mr. Hoveyda, the Iranian Prime Minister, during his recent visit to Britain observed that the Gulf was the "jugular vein" of Iran and that no subversive activity in that area by Iraq would be tolerated. It is true that vast quantities of oil are carried for Iran through the Gulf but the petroleum comes not from the oil wells of Iran only but also from the oil wells in Iraq. The root of the trouble, however, lies in the fact that Iraq is hostile to the West because of the Arab-Israeli conflict and would like to deny oil to the friends of Israel. Iraq is also seeking an outlet to the Gulf near Kuwait's territory and desires to control two small islands belonging to Kuwait. The Shah in his turn has already grabbed a few islands there against the protests of the local emirates. Even the Indian Ocean seems to have come within the ken of the Shah and he is negotiating for naval base in places as far away as Mauritius.

Realising that the Azarbaijan movement in North-west Iran may take any turn according to the prevailing Russo-Iranian influence, Iran had taken full advantage of the opportunity offered by Mr. John Foster Dulles in the fifties and obtained American arms worth a billion dollars. She was able to raise and equip two armoured divisions and one armoured brigade of U.S.

Patton tanks.[1] Five infantry divisions and one infantry brigade were also raised with the American bounty not to speak of other small arms, amunition and vehicles. Iran also acquired a battalion of the Hawk surface-to-air missiles and a number of Huskie transport helicopters.[2] A destroyer, five frigates with surface-to-air missiles, five corvettes and a number of patrol boats and landing craft were also acquired under that programme.[3] Some 175 combat aircraft were added to the Iranian Air Force of which half were F-5s, the best that Americans had at that time.[4] These armaments were absorbed and became operational in about a decade. The Iraqi forces on the other hand consisted of two armoured divisions equipped with Russian T 54/55 and about 50 British Centurian tanks. The infantry strength was five divisions and a brigade with supporting arms and Services components mainly of Russian origin. The ground forces of both Iraq and Iran were almost on a par. The Iraqi navy consisted of but a dozen patrol boats, while the Air Force had a complement of 133 combat planes of Russian Illushyan bombers and MIG 21s.[6]

American interest in Iran's new armaments programme

The United States likes Iran to serve as a bastion of American prestige between the Arab States on the one hand and the Indian sub-continent on the other to offset the Soviet influence over the oil rich Sheikdoms in the Persian Gulf region and counter any machinations of the anti-American and pro-Soviet regimes in Iraq, Syria and South Yemen. It is estimated that the revenues derived by Iran from oil have shot up from 35 million dollars in 1945 to 1500 million dollars by 1970 and are likely to show a further phenomenal rise to double or treble the latter figure by the 1980s, so much so, the Shah can indulge in as big an arms expansionist programme as he wants and modernise his armed forces with the latest and most sophisticated weapons of warfare. It is believed that the Iranian plan has the tacit support of the U.S., and that she has undertaken to provide at least 2 billion dollars worth of sophisticated arms over the next few years. According to another estimate Iran has spent over 3 billion dollars of its oil revenues during the past year alone on milltary equipment buying sophisticated military weapons considered to be years ahead of what India or Pakistan has got now.* All these have been provided by the U.S.

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[1] The *Hindu*, Madras, 20th March 1973.

[2] *Ibid.*

[3] *Ibid.*

[4] *Ibid.*

[5] *Ibid.*

[6] *Ibid.*

Iran's arms expansion plan and alleged grounds therefor

Iran's plan is designed initially to secure Iranian control of the Straits of Hormuz, the 26 miles entrance to the Persian Gulf through which it is estimated that one-third of the non-communist world's oil supplies are transported. The promontary on the southern shore of the Straits of Hormuz is controlled by the State of Oman, and Iran is reported to be negotiating with that State by which the two States would jointly inspect and control ships entering the Persian Gulf. At present one oil tanker enters the Gulf every fifteen minutes and the ostensible reason given out by Iran to inspect the traffic is to control pollution in the Gulf. The ulterior reason seems to lie in Iran's desire to acquire control of a sea route through which supplies of arms flow both to Iranian rebels as well as to guerillas active in the several emirates and sultanates including Oman lying astride the Arab shore of the Gulf. There is the further fact that Iraq which is pro-Soviet and anti-Iranian lies at the head of the Persian Gulf and is supposed to be actively supporting the rebel elements in Iran. It is also known that the U.S. is maintaining a nominal naval presence in the Gulf and that Russian ships are often calling at the Gulf ports and Russian engineers are helping in the construction of a new port for Iraq in the Gulf. It has also been suggested that Iran's motive in asserting a claim to predominance in the Gulf area is due to its feeling that it is best suited to fill up the power vacuum created by the withdrawal of the British from the Indian Ocean area.

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* The *Hindu* Madras, 19th June 1973.

Scope of expansion

When Iran's arms expansion plan is fully implemented the country would have acquired 700 British Centurion tanks, 150 F-4 Phantom fighters, 500 helicopters comprising 200 Cobra gunships and 300 Huey transport, laser guided bombs and air-to-air missiles. The naval strength will be more than doubled by the acquisition of 3 destroyers, 4 frigates and a number of patrol boats and Hovercrafts. In fact the destroyer strength would have trebled itself. Apart from the major offensive weapons and ancilliaries like vehicles, spare parts, ammunition etc., 3000 U.S. servicemen will be employed to train the Iranian troops in the use of all these kinds of armaments.[1]

Impact on India

The phenomenal increase in the oil income of Iran as each year passes and the country's spending spree on armaments of the latest and most sophisticated type taken along with the close and intimate friendship of Iran with Pakistan have led to furious thinking on their possible impact on India. It has been reported[2] that the CENTO Ministerial Council session which ended in Tehran on June 11, 1973 decided that subversion and guerilla activities in Turkey, Iran and recently in Baluchistan where Soviet arms and machine-guns were alleged to be sold "like toys" constituted a serious threat to the regional members. It has also been reported that the CENTO members reviewed and discussed the Soviet military pacts with India and Iraq and discussed methods as to how to combat the threat. A CENTO press release said the members had 'maintained their vigilance, acutely conscious of the rapid and large-scale increase in Soviet armaments and its support for terrorist and subversive activities in the region."

"Eloquently illustrating the apprehensions of the allies were the new elements which came into play in West Asia—Russia's friendship treaties with India and Iraq.

"The August 1971 Russian treaty with India preceded by only

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1. The *Hindu*, Madras, 20th April 1973.
2. The *Hindu*, Madras, 12th June 1973.

a few months the Indo-Pakistan war, which resulted in a breach between the eastern and western wings of Pakistan.

"The Russian-Iraq treaty of April 1972 provided for Soviet supply of armaments to a country that had not hidden its hostility towards the three regional countries. The Soviet Navy could also use Iraqi ports on the Persian Gulf, the waterway from which the United Kingdom had withdrawn in 1971. Iraq's oil was also available to the Soviet Union."

Iran is particularly interested in Baluchistan (a component part of Pakistan) since there is a large population of Baluchis in Iran just across the border. It is alleged that Iraq has been encouraging the Baluchis to think in terms of an independent State. The Shah has reportedly stated that he will not allow such a move and will intervene should it become necessary. It is well-known that during the recent Indo-Pakistan war, the Pakistan Air Force, for reasons still not known, shifted a number of Mirage bombers to Iran and Iran not only became a safe sanctuary for the Pakistan bombers but even alowed military supplies of a vital character to reach Pakistan when Karachi and other military targets were subjected to attacks by the Indian Air Force during the war. *Prima facie* what happened once may happen again and there is no guarantee that the enormous quantities of the latest types of arms being acquired by Iran may not be diverted to Pakistan or at any rate reach Pakistan should the latter need it. Any assurances given by the U.S. in this regard to India cannot carry any significance having regard to the double standards adopted by that country during the Indo-Pakistan conflict in 1971. Apart from these, even as the western countries, India also has a vital interest in oil supplies from West Asia. India has entered into an agreement with Iraq for joint oil exploration there and would like to ensure that this supply would not be affected in the event of any future conflict with Pakistan. As the industrialisation of India continues to progress, her dependence on crude oil from Iraq will also *pari passu* increase. As it is, the refining capacity provided for in India is much greater than what could be met from its own crude oil from the oil wells. The presence of a powerful Iranian *cum* Pakistani naval presence in the Persian Gulf area and Arabian Sea will constitute a serious threat to India's oil supplies from Iraq or Saudi Arabia. In addition to all these, there is the inscrutable Chinese attitude towards India breathing fire and brimstone ever and anon and tending to keep alive India's differences with Pakistan. Without engaging herself in any open war with India it would be possible for China to supply Pakistan with arms and replacements and keep India's western front alive at the same time precluding India from entertaining hopes of getting back the territory she has lost to China in the Nefa area and also in Ladakh.*

Impact of Iran's arms expansion on Arab countries

The King of Saudi Arabia has his own apprehensions that the inter-play of the U. S., Russian and Chinese influence in the Persian Gulf area may result in an explosive situation and is therefore going in for arms purchases on a grand scale to defend his regime. It is astonishing that a nation with hardly six million people is spending annually nearly six million dollars on military purchases.* With its vast oil wealth expected to be developed in the course of a decade, Iraq also may well aspire for leadership of the Arab world and pose a threat to Iran.

Conclusion

There is no escaping the conclusion that every nation or State is at the present time sought to be brought within the sphere of influence of the super-Powers, one or the other of them. The undeveloped and underdeveloped States have become mostly pawns of the big Powers in their struggle for survival. Iran's action in regard to its arms expansion programme may lead sooner or later to explosive situations on account of external compelling pressures. India naturally, cannot afford to be complaisant and as one of the few countries striving to keep aloof and not get entangled with either of the super powers has been repeatedly appealing to the moral conscience of the world. As part of its diplomatic efforts to improve relations with all neighbouring countries it has bestowed special attention to the question of improving its relations with the States in the Gulf region and steps are being taken to establish closer political economic and cultural links with them. But the U.S. as well as the Soviet Union seem to be keen in maintaining the political compartmentalisation of the land mass of Asia stretching from the Pacific to the Mediterranean into five groups, East Asia, South-East Asia, South Asia with the Indian sub-continent as its epicentre, Persian Gulf region, and the remaining Arab States. Under such a division, while a country like Iran by reason of its oil wealth is enabled to play a leading role not in the Gulf only but also in the Indian Ocean a country like India will have no responsibility in the Gulf region. The moves and countermoves of the big powers keep all the other countries guessing and not all the combined efforts of the non-aligned nations have borne fruit in their being left alone. The U.S. also has not been able to function purposively or effectively wherever the interests of any of the super-Powers was likely to be affected. Even a U. N. study of the Indian Ocean as a zone of peace, however earnestly made, is not likely to ensure peace.

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* **The *Hindu*, Madras, 30th March 1973.**

[Long after this essay was originally published, the Associated Press has reported on March 6, 1975, (The Hindu, March 7, 1975) that Iran and Iraq have signed an agreement, totally resolving their conflict at a summit meeting of the petroleum exporting countries held at Algiers. This agreement gives Iran greater strength and influence than before to emerge as a strong power in the Indian Ocean.—EDITOR]

INDIAN NAVY

CHAPTER XIV

As early as 1613, the East India Company had established the nucleus of a naval force called the Royal Indian Marine at Surat to protect the Company's shipping and coastal sea-routes from molestation by rival European powers. Later, in 1685, the establishment was shifted to Bombay, when it became known as the Bombay Marine. It took the company fifty years more to start ship-building in India. In 1735 two ship-building yards were built at Bombay and Calcutta. The Bombay Marine changed its constitution and name from time to time, reflecting England's changing political relations with India. In 1892 it came to be known as the Royal Indian Marine and still later, in 1934, it changed its name once again to the Royal Indian Navy. The word 'Royal' was dropped only when India became a Republic on January 26, 1950.

The few ships which formed the R.I.N. were only an outpost policing force of the English Royal Navy. If there was a need for a powerful naval presence in the Indian Ocean area, Britain had her naval base in the Indian Ocean to summon reinforcement. Britain saw no problem in the area.

During World War I, the role of the Royal Indian Marine as it was than called, was confined to transport and escort duties. When World War II broke out, our ships of the Royal Indian Navy played a very useful, though not a spectacular role. Though a comparatively young navy, ships of the Royal Indian Navy were in service in all the seas and commanded respect everywhere. I.N.S., ***Delhi***, which was formerly H.M.S. ***Achilles***, had the distinction of gallant participation in one of the great naval engagements of World War II—the battle of the River Plate. She fought a grim epic battle with the redoutable German pocket battleship, *Graf Spee*.

The frigates ***Sutlej*** and ***Jamuna*** acquitted themselves creditably in the Battle of the Atlantic. Indian naval units were also active in the Mediterranean sea and took part in the landing in Sicily. They were also in service at Singapore during the crucial period of Japanese invasion and among the last ships to leave the base when it fell.

Another engagement fought by R.I.N. ***Bengal***, a 650-ton mine-sweeper is also worth recording. While escorting a Dutch tanker, she sighted two Japanese 10,000-ton armed raiders. The odds were heavily against the tiny Indian ship which promptly attacked the enemy ships with everything she had, and sank one of the Japanese ships. The other ship just fled.

During the Arakan campaign in Burma, R.I.N. ***Narboda*** took a leading part in the bombardment of Japanese held positions. The leading craft wing of the Royal Indian Navy secured bridgeheads for successful allied landings at Myebon and Ramree on the Burmese coast.

When India became free, our navy had no aircraft carrier or submarine and consisted only of old ships and escort vessels. Even this small force was depleted by the partition of the country. Almost a third of our naval strength and three important training centres went to Pakistan. Free India's navy had, therefore, to start almost from scratch. It took us ten years to develop an air wing and a further ten years to acquire under-water craft.

Today, our navy consists of an aircraft carrier, INS ***Vikrant***, cruisers ***Mysore*** and ***Delhi***, a submarine squadron, two destroyer squadrons, three frigate squadrons, one mine counter-measure squadron, one missile boat squadron, four survey ships, one landing craft squadron, one patrol craft squadron, a modern fleet tanker, a submarine depot ship and rescue vessel, and many auxiliary craft such as tugs, customs craft, in-shore and coastal mine sweepers.

The acquisition of the aircraft carrier, INS *Vikrant* in 1961 was an important addition to our navy. The carrier has an angled deck, steam catapult equipment, mirror landing aids and electrically operated lifts. Her aircraft complement includes jet fighters, reconnaisance and anti-submarine aircraft and air-sea rescue helicopters. Both our cruisers INS *Mysore* and INS *Delhi* (10,000-ton and 8,000-ton) have a brilliant record of service.

In the early sixties of this century, Indian Navy acquired several destroyers and frigates. The training frigates of the Indian Navy are used for the training of cadets and midshipmen. Four survey ships of the navy continually carry out survey of our coasts and approaches to our harbours. Based on the data collected by these ships, the navy's hydrographic office produces naval charts and information for all ships of all nations to ensure safe navigation within our area of responsibility. By acquiring a squadron of missile boats our navy has entered into the missile era. In addition to our patrol boats, we have a number of police boats.

Though some of our ships are old, our navy has, despite difficulties, grown steadily. The pace of growth, however, has to be increased considering our defence responsibilities consequent on the withdrawal of the powerful British naval power.

Though small when compared to the big fleet strength of the major naval powers, Indian navy holds a prestigious position among the littoral nations of the Indian Ocean. We have fine and gallant officers and men. Units of our navy have had occasions to prove their brawn in action and revive our noble naval tradition. Our navy has served us well. What we can do for our navy is upto us.

With the commissioning of INS *Nilgiri* on the 3rd, June 1972, the first of six Leander class frigates built at Mazagaon Dock Ltd., Bombay, a significant step was taken is the construction of sophisticated modern warships in the country.

Historically, warship construction in India is not new. The oldest existing wooden ship in the world, the HMS "*Trincomale*" was built in 1817 in the Naval Dockyard at Bombay. Originally a 46-gun frigate of 1500 tons displacement, the ship was converted in 1900 into a training ship and re-named HMS "*Foudroyant*." She is still afloat and reported to be in active use at Portsmouth, U.K. The last frigate built in this yard was the 84-gun ship-of-the line HMS "*Calcutta*" of 2300 tons, in 1831. The Mazagon Dock have also built warships for the Royal Navy in the 19th century. An 18-gun frigate "*Tigris*" and a 6-gun schooner "*Shannon*" were launched from this Yard in 1829.

After a long period of well over 130 years India has embarked once again on this great art of warship-building. This has had an invigorating effect on all ranks of the Navy.

A national navy must be able to produce its ships and equipment from a secure base within the industrial potential of its own country. The future of the Navy and the surveillance of the nation's coastline are intimately linked with this and future projects of warship construction in India.

The basic Leander class of ships is a patented design of the United Kingdom, a general purpose frigate essentially intended for longer continued surveillance of sea areas of interest to our country.

The work of building the Leanders was entrusted to the Mazagon Dock Limited. The construction was started with the laying of the keel on the 15th October, 1966. Steps were taken for substantial introduction of indigenous items of material and machinery in the Leanders—a drive towards progressive indigenisation of warship equipment.

INS *Nilgiri* is 372 feet long, with a beam of 41 feet and draws a draught of 13 feet 9 inches amidships, at a deep displacement of about 3000 tons. She is provided with fully air-conditioned accommodation for 17 Officers and 276 Sailors. The original Royal Navy Leander design (FSA 34) was suitably modified to cater to the Indian Navy's staff requirements.*

An enlarged helicopter landing deck to accommodate indigenously made helicopters and advanced electronic Warfare and Communication equipment are a few of the improvements. Indigenous equipment of radically new design and size have necessitated alteration in the layout of vital compartments in the ship.

Designed to intercept and destory anything in the air or sea picked out on its expansive radar horizon, INS *Nilgiri* has sophisticated electronic warfare equipment for radio espionage and 'jamming' and a top speed of 30 knots.

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* The second frigate of the Indian Navy INS HIMGIRI was commissioned in November 1974.

INDIAN NAVY IN ACTION*

(Indo-Pakistan War—3rd to 17th December, 1971)

CHAPTER XV

WITHIN minutes of the pre-emptive strike on Indian airfields in the Western sector by Pakistani aircraft on December 3, 1971 warships of the Western Fleet, of the newly-formed Eastern Fleet and of the Southern Naval Area were racing to their deployment stations.

"Seek and destroy all enemy warships" was the order of the Chief of the Naval Staff to his Flag Officers Commanding-in-Chief and Fleet Commanders; "The maritime link between the two wings of the enemy is to be sliced forthwith. Ensure that *no* repeat *no* supplies reach the Pakistani war machine in East Pakistan from seawards".

Early on the morning of December 4, ships and the *Vikrant*-based aircraft of the Eastern Fleet struck military targets in enemy-held Bangla Desh. The main target, initially, was the airfield at Cox's Bazar. Their initial attack resulted in the destruction of vital airfield installations. The air traffic control tower, a power house, the wireless station and a fuel dump were destroyed or damaged. Later that afternoon, a second strike launched from the *Vikrant* on Chittagong harbour damaged six Pakistani ships in the outer harbour.

In an obviously pre-planned search for the biggest prize of all—the *Vikrant*, the 2,500 ton Tench-class U.S.-built submarine *Ghazi*, the pride of Pakistan's Navy, was lurking outside Vishakhapatnam harbour on the evening of December 3. Before midnight, one ship was sailed out of harbour on a mission. Just outside the harbour, the ship obtained sonar contact, and an urgent attack was carried out on the sub with depth charges. The sonar contact was lost after the attack and the ship proceeded on her mission to join other units out at sea.

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* **Source: Eastern Naval News, January 1972.**

Shortly after midnight, just before the Prime Minister's broadcast to the nation a very loud explosion in the outer harbour was heard. Investigations by naval authorities with the help of local fisherman continued through the night and the next day. Soon, some life jackets and other debris floated to the surface. Bad weather hampered further search during the next three days when three dead bodies and a great deal of flotsam were picked up. Conclusive evidence was obtained that the sunken craft was none other than the *Ghazi**. The submarine had a normal complement of 89 officers and sailors. The three bodies were buried at sea with proper solemnity and ceremony in accordance with service custom.

In another operation, a second submarine was attacked by units of the Eastern Fleet in the Bay of Bengal on December 4, The craft was forced to surface by underwater projectiles and was re-attacked by gunfire when on the surface. It made a distress signal before it dived. This submarine is presumed to have sunk,—a " probable kill ".

Round-the-clock attacks by naval aircraft on enemy military targets continued. The aircraft attacked Khulna, Mongla and Chalna harbours on the nights of December 5, and 6. Despite heavy anti-aircraft fire from the ground, the enemy gun-boats were damaged in the Pussur River and harbour installations at Chalna were attacked with bombs and rockets. At Mongla, the aircraft which experienced heavy anti-aircraft fire from gunboats, scored direct hits on four of these ships, destroying two and severely damaging the other two.

One Pak merchant ship which opened fire at our aircraft at Khulna was damaged. A number of craft and military installations in the port area were also damaged.

Over the next few days, units of the Eastern Fleet continued to pound military targets in Do-Hazari, Hathazari, Chittagong

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*** See end of Chapter for details.**

and Cox's Bazar. Heavy anti-aircraft fire was generally experienced at these ports.

Fierce attacks mounted by Indian naval units and naval aircraft produced dramatic results. It was evident that the port area of Mongla was being abandoned, and that Khulna was being evacuated of all Pak naval craft and army troops.

On December 7, Chittagong and Cox's Baxar once again came under heavy naval air attack. One hanger and a concentration of military vehicles were destroyed and three oil dumps set ablaze at Chittagong. At Cox's Bazar, vehicular concentrations and one wireles station were destroyed. The next day, three more gunboats were sunk and army barracks in the Chittagong military complex damaged. Two of the gunboats were subsequently identified as PNS *Salamat* and PNS *Shahbaz*.

With the Indian Army rapidly advancing towards Dacca and with the Indian Air Force having by now decimated the Pakistan Air Force in Bangla Desh, the *Vikrant* played an increasingly important role in sealing off all escape routes. Many gunboats tried to break out of the Chittagong estuary with troops on board. These were cordoned by our naval units and captured. Pakistani troop concentrations, convoys of various types and gun-positions in coastal areas were attacked. Pakistani ships resorted to the ruse of disguising themselves as neutral ships in an attempt to get away. This bluff was called off by the simple expedient of stopping and searching all ships. Genuine neutral ships were allowed to proceed after their identity had been established. Those carrying Pakistani soldiers or other contraband were sent to Indian ports. In many cases, Indian warships provided medical attention for casualities.

In the meantime, the Navy's Western Fleet was covering itself with glory. Throughout the war, ships of the fleet continuously patrolled the approaches to Bombay and other West Coast ports. The fact that not a single ship or port installation was damaged by Pakistan's midget submarines or chariots is proof of the vigilance exercised by the Navy.

On the night of December 4/5, a daring attack was carried out by a Naval Task Force on the stronghold of the enemy's Navy at Karachi. Approaching the harbour at high speed, the Indian ships engaged three Pak warships patrolling outside Karachi. Despite strong surface opposition, the three enemy ships were engaged in battle.

The first target hit was observed to burst into flames, lift out of the water and to break into two. Direct hits were scored on the second target which was seen to disintegrate almost immediately with the accuracy of the attack. A third target, which was also initially hit, and subsequently pounded, was rocked by a tremendous explosion before it sank, engulfed in flames. Heavy gunfire was returned by the first ship which was identified as a powerful 2,500-ton Battle-class destroyer *Khaibar* (with a crew of 300-plus). The second ship was possibly a minesweeper. The third ship could not be identified.

Nullifying the opposition, the Indian Task Force approached the harbour and set on fire the oil installations and oil fuel tanks on Keamari Island before turning round and returning to base. According to an eye-witness account, the fire raged for a further two days.

This daring attack caused panic and confusion in the Naval Headquarters at Karachi and in the Pak fleet deployed westward of the port. This is also evident from the fact that early on the morning of December 6, the presence of Indian missile boats outside Karachi was falsely reported and Pakistan Air Force F-86 Sabres attacked their own patrol craft outside the harbour causing severe damage to them and killing several of its personnel.

A second daring attack carried out on Karachi on the night of December 8 and a simultaneous diversionary raid on the Makran Coast resulted in the capture of a Pakistan merchant ship *Madhumati*.

Having eliminated the defence of the outer harbour, the Indian Naval Force attacked the fuel complex on Keamari Island, scoring direct hits on petrol tanks. The heavy fire caused could be seen 50 miles away.

The Indian Navy suffered its only reverse of the war in the loss of the anti-submarine frigate, the *Khukri*. While in the process of hunting Pakistani submarine in the Arabian Sea, the *Khukri* was struck by a salvo of three torpedoes in quick succession. The ship sank in a matter of minutes taking down with her 13 officers and 176 men, including the Commanding Officer, Captain M. N. Mulla, who was awarded MVC posthumously.

Immediately on the outbreak of hostilities, the Navy took steps to keep the sea-lanes open for our merchant shipping. Two hundred Indian ships were brought to Indian ports without a mishap. On 15, December, the Eastern Fleet made history by undertaking the first combined operation since World War II-the amphibious landing of troops at Cox's Bazar. Shortly after, the war was over and Bangla Desh was free.

The Head Quarters, Eastern Naval Command gave out the following details of the GHAZI incident

"On the night of 3rd December 1971, after the treacherous attack by Pakistan it was appreciated that a pre-emptive underwater attack against the Naval Base at Vishakhapatnam might be imminent and local defence were immediatelly put on to first degree of readiness. After taking all precautions within the harbour, the ships sailed out just before mid-night on a mission."

"On seeing what might have been a submerging periscope, an urgent attack was carried out with depth charges. The attack was directly over the sea disturbance. Shortly after mid-night and just before the Prime Minister's broadcast to the nation, a very loud explosion was heard to seawards, rattling several window panes in buildings near the beach. This was reported to me by our Coast Battery which was standing by against any likely surface attack on Vishakhapatnam. The attacking ship, in the meantime, was proceeding post haste to destination Bangla Desh unaware of the result."

"We assumed that the explosion heard was probably the result of our attack. We commenced our searches: Eastern Naval Command Headquarters, as part of defence preparedness, had enlisted the support of all local fisherfolk and they had been thoroughly briefed on what to do in events such as these. According to these instructions, two fishermen, on picking up a life jacket and other debris, lost no time in bringing these across to Command Headquarters. Yesterday, however, we found three dead bodies and a lot of flotsam and jetsam. There are ample evidences available from these that the submarine destroyed is none other than the Pakistani Naval Ship *Ghazi*."

"On our appreciation of situation in the event of a pre-emptive strike by Pakistan, we had always assessed that they would most probably deploy the *Ghazi*, which has a considerable range, in the Bay of Bengal and would probably be off Madras or Vishakhapatnam and that their aim would be to sink the biggest prize of all— the *Vikrant*. This appreciation has been proved absolutely correct."

"The three bodies, were given, in accordance with Service custom and tradition, sailor's burial at sea with proper solemnity and appropriate ceremony."

"This submarine *Ghazi*, given to Pakistan by the Americans on the 1st June 1964 had been the cause of much worry to our Naval Planners all these years. And here, at last, she lies at our door step as a dead monument and a reminder that aggression does not pay."

"The fact that she was so close to Vishakhapatnam within seven hours of Pakistan's treacherous air attacks on India on the third evening, tells its own tale. This is proof positive of pre-planned and deliberate aggression by Pakistan against India. She was to pay heavily for this folly just as their submarine *Ghazi* did."

[A Tench Class submarine, *Ghazi* was built by Portsmouth Naval Dockyard, USA, and transferred to the Pakistan Navy; 2410 tonnes submerged, speed 20 knots on surface and 10 knots submerged, carrying ten 21" torpedoes, six in the bows and four in the stern; radius of action 14,000 miles at 10 knots, complement of 89 officers and sailors.]

The Tasks of the Navy

The Navy's main task is the protection of our 5,600 Km. Coast line and our islands territory, some of them (The Andamans & Nicobar) fully 1400 Kms. from the Indian main land. Besides, the Navy keeps our sea-lanes open for our merchant ships, at the same time denying the use of these sea-lanes to the enemy.

The Navy has many other tasks not generally known—the charting of our waters for safe navigation and continuous anti-smuggling operations, for example. It is also often been called upon to render assistance in times of emergency to vessels in distress on the high seas, to ships that have come to grief in shallow waters or rocky reefs, to fishing fleets scattered by storms, to handle merchant ships paralysing harbours during port strikes, and in times of cyclones, floods and drought. Its divers have rendered valuable service on all the major river projects in the country

A major national disaster was averted in August 1970, when some of our naval ships, in a rare feat, pumped out 16,000 tons of fuel from the disabled Greek tanker '*Awpuria*' after the ship had run aground on the Kathiawar coast. The seas were rough, navigation was dangerous and there was risk of oil pollution of the sea in this richest of fishing regions.

Steady progress is being maintained in providing various naval facilites to our ports, harbours and islands. These are necessary to give flexibility in the deployment and maintenance of a modern fleet. Further, the present emphasis is on building up of our naval strength in regard to patrolling and anti-submarine capabilities in view of the threats we are likely to face, especially from submarines.

With the expansion and modernisation of our operational fleet and of our dockyards, and with our modern training facilities, the Indian Navy is now better equipped than ever before to carry out its task in the defence of the country's sea frontiers. As Shri Jawaharlal Nehru said :

"We have once again realised the great importance of the sea and, therefore, the importance of the Navy. We cannot afford to be weak at sea."

APPENDIX

Government of India Ministry of Shipping and Transport Seamen's Employment Office, BOMBAY

Number of Seamen Registered (effective) as on 1st September, 1974.

CONVENTIONAL ROSTERS

Sl. No.	ROSTER	No. of Ships	Deck Dept.		Fngire Det.		Saloon Det.		TOTAL	
			Jobs.	Seamen Regd.	Jobs	Seamen Regd.	Jobs	Seamen Regd	Jobs	Seamen Regd.
1.	P and O Pass. Div. ...	8	190	511	13	...	1516	2518	1719	3029
2.	P and O G. C. D.	28	579	1181	241	483	415	1141	1235	2805
3.	P and O Bulk Ship Div.	21	...	...	...	...	118	...	188	...
4.	Mogul Line	5	138	200	64	102	97	150	299	452
5.	City Line	16	311	459	202	321	178	239	691	1019
6.	Scindia	44	853	1234	437	649	430	626	1720	2509
7.	Shipping Corpn. I. ...	50	885	1485	426	781	552	930	1863	3196
8.	Shipping Corpn II. ...	22	440	563	271	364	252	257	963	1184
9.	Great Eastern	19	304	415	162	226	161	181	627	822
10.	London Tanker ...	43	779	684	473	457	333	248	1585	1389
11.	Border Tanker. ...	11	210	485	154	303	83	199	447	987
12.	Reardon Smith. ...	18	333	343	154	109	165	145	652	597
13.	DBC/SISC.	10	189	48	62	23	111	38	362	109
14.	Chowgule.	6	116	76	65	39	58	44	239	159
15.	APU Lines. ...	5	100	24	40	8	44	3	184	25
16.	Van Ommeren. ...	3	54	30	24	26	26	28	103	84
17.	Cunard Brocklebank. ...	7	119	66	61	37	55	34	235	137
18.	General.	41	606	2079	343	1110	292	1210	1241	4399
19.	Soeasia.	5	85	...	45	...	42	...	172	
	TOTAL	362	6291	9883	3236	5038	4998	7991	14525	22912

G. P. ROSTERS

1.	Anglo Nordic ...	15	492	357
2.	Mobil ...	28	268	1118
3.	P and O Bulk Ship. Div. ...	4	115	315
4.	B. P. (G. P.) ...	35	1086	1673
5.	Texaco. G. P. ...	29	1013	1489
6.	Chevron G. P. ...	30	981	1266
	Total	141	4555	6218
	Grand Total	503	19080	29130

(N. C. TRIVEDI)
Director

Number of Seamen Engaged and Unemployed

Conventional Rosters	Deck	Engine	Saloon	Total
Engaged	5856	2950	4697	13503
Un-employed	4027	2088	3294	9409
Total	9883	5038	7991	22912

G. P. ROSTER

Engaged	3682
Un-employed	2536
Total	6218
Grand Total	29130

Seamen's Employment Office, CALCUTTA

Statement Showing Roster and Departmentwise number of effective seamen and number of jobs as on 31-8-1974

Sl. No.	ROSTER	No. of Ships	DECK		ENGINE		SALOON		Total No. of jobs	Total No. of Registered seamen
			No. of jobs	No. of Registered seamen	No. of jobs	No. of Registered seamen	No. of jobs	No. of Registered seamen		
1.	B.I.P.B. ...	20	*364	780	*263	815	625	1062	1252	2657
2.	Bankline ...	33	726	1132	396	686	297	480	1419	2298
3.	Brocklebank	3	*59	218	*33	177	81	149	173	544
4.	Clanline ...	13	264	534	143	320	162	301	569	1145
5.	Elerman Lines ...	14	272	404	165	289	151	333	588	1026
6.	India Steam ...	18	396	617	222	402	225	355	843	1374
7.	Shipping Corporation ...	40	738	830	385	565	452	486	1575	1881
8.	Ratnakar ...	4	62	103	44	82	44	67	150	252
9.	General ...	7	127	193	71	143	52	88	255	424
	Total	152	3008	4801	1722	3479	2092	3321	6822	11601

* In addition to the jobs shown under Deck and Engine Room Department there are 148 and 126 G. P. jobs on 7 BIPB and 6 Brocklebank vessels.

Number of seamen "Employed-unemployed" Departmentwise

DECK		ENGINE		SALOON	
EMPLOYED	UNEMPLOYED	EMPLOYED	UNEMPLOYED	EMPLOYED	UNEMPLOYED
3945	856	1816	1663	2191	1130

Total employed .. 7952	Total unemployed .. 3649

SOME IMPORTANT EVENTS IN INDIAN SHIPPING FROM 1736

1736. Dockyard established by the East India Co. at Bombay with Lowjee Nusserwanjee Wadia as "Master Builder." Till 1885, the yard built over 300 vessels, big and small. 1750 The first Dry-dock completed at Bombay. 1781. First dry-dock constructed at Calcutta. 272 vessels aggregating 122,713 tons were built till 1821. 1819. First steam vessel in India built at Lucknow by Mr. William Trickett for the Nawab of Oudh. 1823. *Diane* first steam vessel in passenger service on the Hoogly built in Calcutta by Messrs. Kyd & Co. 1825. First voyage performed by any steam vessel from Europe to India via Cape of Good Hope· The vessel was the s.s. Enterprise.

1829. First Steam vessel built at the Bombay Dockyard was the s.s. Hugh Lindsay of 411 tons, Nowrojee Jamsetjee Wadia was Master-builder of the yard. 1840. First iron boat assembled at Bombay Dockyard. s.s. Plaent (397 tons). 1841. The Indian Registration of Ships Act. 1848. Indian Navy transformed into steam service. 1862 Steam vessel s.s. John Bright owned by a Parsee firm made her first voyage from Gravesend (Kent. England) to Bombay via Cape in 58 days. 1869 Suez Canal opened for traffic, shortened steaming distance from Europe to Bombay by 4,000 miles. 1880. Prince's Dock (Bombay) opened. 1888. Victoria Dock (Bombay) opened. 1890. Jamsetji Tata started a line of steamers from Bombay to China/Japan in the national interests of the Indian yarn trade.

1909. The Indian Co-operative Navigation & Trading Co. founded. 1919. Establishment of the Scindia Steam Navigation Company Limited on March 27, s.s. Loyalty, the first ship of Scindias, sailed on 5th April to U.K. unfurling for the first time in modern history the Indian flag on the high seas. Eartern Steam Navigation Co. Ltd. founded. 1921. Bombay, Calcutta and

Madras declared Major Ports by Central Government. Scindia commenced taking Indians as apprentices on its ships for training as ships' officers thus laying the foundation for training of Indians for officers' posts in the merchant marine. Merchant Steam Navigation Co. founded. 1927. Training Ship Dufferin established. 1928. A Bill to reserve the coastal traffic of India to Indian vessels was moved in the Legislative Assembly by S.N. Haji (February 9). Malabar Steamship Co. founded. Bengal-Burma Steam Navigation Co. Ltd. founded. 1930. Indian National Steamship Owners' Association (INSOA) was founded with seven company members and four individual members. 1933. Visakhapatnam declared a Major Port. 1936. Cochin declared a Major Port. 1937. New Dholera Steamships Ltd. founded. 1941. Foundation stone of First Indian Shipyard laid by Dr. Rajendra Prasad at Visakhapatnam (June 11). 1942. Shri. Ambica Steam Navigation Co. founded.

1945. End of World War II. Indian tonnage stood depleted at 75,000 g.r.t. Bharat Line Ltd. founded. 1946. India Steamship Company under Indian management began operating its own ships, establishing for the first time regular Indian services between Calcutta and U.K./Continent. 1947. Sinking of s.s. Ramdas of the Indian Co-operative Navigation & Trading Co., off Bombay Harbour in July. First Indian built ship, Jalausha, launched by Prime Minister Jawaharlal Nehru, from the Visakhapatnam yard (March 14). Three Indian shipping companies were floated, viz. The Great Eastern Shipping Co. Ltd., National Steamship Co. Ltd., and the South-East Asia Shipping Co. Ltd.

1950. India became a sovereign Republic (Jan. 26). New National colours for Indian ships came into force. 1951. Mekhala commenced functioning as a Training ship for seamen at Visakhapatnam in February. 1952. On January 10, Prime Minister Jawaharlal Nehru laid the foundation-stone of the Kandla Port. From March 1, new rule regarding national colours for Indian ships came into force. The proper national colours were declared to be " a red ensign consisting of a red flag with width equal to one half its length, and the National Flag of India superimposed in the top quarter next to the staff." The Hindustan Shipyard Ltd., took over the Scindia Shipbuilding Yard at Visakhapatnam on 1st March. By this time eight cargo ships of 8,000 d.w. tons each had been built at the yard by the Scindia Company. Reservation of Coastal trade for Indian ships completed. 1953. Eastern Shipping Corporation inaugurated its Far-East cargo service in December. Indian tonnage 434,300 gross tons. 1955. First India built motor-vassel, Jalavihar, completed at the Visakhapatnam. 1956. Shipping agreement between India and the U.S.S.R. for the operation of six Indian ships and six Soviet ships between Indian and Black Sea Ports for cargoes covered by the trade Agreement. First Tanker Jag Jyoti acquired by an Indian Shipping Company (Great Eastern) in March. Second Tanker Desh-sevak acquired in the public sector in September. 1957. Sumati Morarjee elected President of INSOA, becoming the first woman head of any shipowners organisation in the world.

1960. The Mazagaon Dock (Pvt.) Ltd., owned jointly by the P. & O. and the British India Steam Navigation Co., was taken over by the Government of India. Mogul Line owned by British interests taken over by the Government of India adding 25,899 gross tons to Indian-owned tonnage. Indian tonnage 844,016 gross tons. 1962. A book inscribed in Hindi as a memorial to the 6,500 Indian Naval and merchant marine personnel who lost their lives at sea in World War II was formally opened by the Governor of Maharashtra, Sri Prakasa, at a solemn ceremony in Bombay. The Memorial book, placed in a bronze and glass casket, has been installed in the Memorial Hall of the Indian Sailor's Home at Masjid Bunder, where the names of over 2,000 Indian seamen who fell in World War I have been commemorated. One million ton g.r.t. crossed by Indian shipping according to Lloyds' Register.

1963. Bharata Jayanti of 32,250 d.w. tons, the first Indian bulk carrier, was delivered to her owners, the Jayanti Shipping Co., by the builders, the Mitsubishi Shipbuilding & Engineering Co. of Japan. First National Mari-time Day was celebrated on 5th April under the auspices of the Indian National Steamship Owners'

Association and under the Presidentship of Smt. Sumati Morarjee. 1966. Government of India took over the management of the Jayanti Shipping Company, Management entrusted to the Shipping Corporation of India Ltd. Thakur Shipping Co. Ltd. formed under collaboration with German firm in Dusseldorf. 1968. Shipping Corporation of India and the Scindia steam Navigation Co. Ltd., inaugurated shipping services to West Asian ports (Persian gulf). Indian tonnage crossed the two million mark. 1969, February. The first Indian built cargo-cum-passenger ship M. V. *Onge* for Andaman's Inter-Island service was launched at the Mazagon Dock. 1969 April, 8th : Indian Institute of Shipping was set up at Bombay for training in Commercial Shipping.

1970 January: Two new Shipping conferences namely Calcutta-East coast of India-West Asia (gulf) conference and Bombay-west coast of India-west Asia (gulf) conference were formed for promoting export trade to gulf area. February 7th : The Shipping Corporation of India Ltd., crossed one million DWT Mark. The P&O discontinues its 123 year old passenger service to U.K. March 13th: The Shipping Corporation of India commenced operation in the India/East Canada/Great Lakes trade and the India Mauritius shipping service. May 26th : A protocol on the operation of shipping service:between India and Russia signed. July 30th: India and Columbia signed a trade agreement for reciprocal most-favoured-nation treatment in trade, tariff and shipping. December 25ths India and United Aerab Republic signed a protocol for a sailing schedule for cargo movement to secure cargo-wise and freight-wise parity.

1971 January 1st : The strength of Indian fleet aggregated 250 ships of 2,397,448 gross tons, 2,147,230 tons in overseas and 250,218 tons in coastal trade. Fifteen vessels of 246,024 tons were acquired during the year and 19 of 96,770 tons sold or scrapped, and thus there was a net addition of 149,254 tons, the overseas fleet having increased by 1,90,877 tons, but the coastal fleet having declined by 41,633 tons. February 17th : The tonnage in operation as on 1—2—1971 was reported at 23,97 lakh g.r.t. that, firmly on order 7.15 lakh g.r.t. and that sanctioned for acquisition 2.4 lakh g.r.t. Negotiations were also stated to be under way for an additional 3.94 lakh tons, active measures being taken for acquisition of the balance of the tonnage. It was also stated that the target for acquisition of tonnage in the public Sector was 50 per cent of the total Indian tonnage. March 21st : Hungary—India shipping service inaugurated April 25 : T. S. ***Rajendra***, the new pre-sea training ship for merchant navy officers launched at Hindustan shipyard.

1972. February 2nd : Prime Minister laid the foundation stone of Vishakapatnam outer harbour, planned for handling bulk carriers of 2 lakh D.W.T. February 18th : Shipping Corporation of India decided to operate a monthly sailing between India and Mauritius April 16th : The new training ship ***Rajendra*** with an annual capacity for intake of 125 cadets for pre-sea training of navigation officers, commissioned. 29th : Prime Minister Smt. Indira Gandhi laid the foundation stone of the Rs. 45 crore Cochin shipyard being built with technical co-operation of Mitsubishi Heavy Industries of Japan. Besides a building dock with capacity upto 85000. D.W.T., it will have a dry dock for ships of upto 100,000 DWT for repairs. It is expected to take five to six years for its optimum annual production of two bulk carriers and repair of ships up to a million GRT. June 3rd : The first Indian built Leander class frigate INS ***Nilgiri*** built at Mazagon dock for the Indian Navy commissioned by Prime Minister Smt. Indira Gandhi. Damodar bulk carriers announced operation of joint passenger-cum-cargo service with British India Steam Navigation to West Asia gulf ports. Hitherto all passenger-cum-cargo vessels in this service were operated by the Line decided to enter West Asia gulf Passenger-cum-cargo service from 16th June, operating in the service its modern passenger-cum-cargo vessel ***Akbar*** which caters to the Haj pilgrim traffic, during off season. August 30th : A ship salvage organisation, first of its kind in India, launched by the Pent-Ocean steam-ships. September 1st : National Shipping Board adopts Shri H. M. Trivedi's report suggesting measures for development of national shipping. October 12th : Central Government agreed to a proposal to amalgamate the Jayanti Shipping Company with Shipping

Corporation of India, till now its subsidiary. December 31st: Indian registered fleet reached the total of 258 Vessels of 2,616,859 GRT (4,003,600 DWT) at the close of the year as against 255 vessels of 2,499,695 GRTC 3,821,427 DWT) in 1971. Share of Indian tonnage in world merchant fleet declined marginally from 1 per cent on 1st July, 1971 to 0.99 percent as in 1st July 1972 according to the Lloyd's Statistical Tables. India's ranking among the world ship owning nations continues to remain sixteenth. Of the total world fleet of 268.34 million GRT Indian fleet was reported to be of the order of 2.65 million tons.

1973 January 1st: Jayanti Shipping Company merged with, the Shipping Corporation of India. With the amalgamation of the two companies, the Corporation's fleet totalled in all 93 vessels of 1.17 million GRT. 8th: A cargo liner service between India and New Zealand, operated by the Shipping Corporation of India, was inaugurated, Calcutta. March 11th: Cochin Shipyard plans building 75,000 DWT bulk carriers. 31st: Indian shipping fleet increased to 260 vessels of 2,654.439 GRT (4,070,274 DWT) as against 258 of 2,616,859 GRT (4,030,600 DWT) on 31st December 1972. May 20th: Cochin Shipyard plans construction of bulk carriers of 75,000 DWT. November 1974 second Leander class frigate INS *Himgiri* commissioned. December: Luxury passenger-cum-cargo liner M. V. *Harsha Vardhana* built at Mazagon Dock handed over to the Shipping Corporation.

TRAINING FACILITIES FOR MARINE SERVICES IN INDIA

(Source: Ministry of Shipping and Transport, Government of India)

I. For training of officers for the Merchant Navy:

1. Training Ship *Rajendra*, New Ferry Wharf, Bombay—400009 (T. S. Rajendra replaced the old T. S. Dufferin.)
2. Directorate of Marine Engineering Training Calcutta/Bombay.
3. Lal Bahadur Sastry Nautical and Engineering College, Hay Bunder, Tank Road, Sewree, Bombay—400003.

II. For training of ratings in Merchant Navy Ships:

1. T. S. Training Ship ***Bhadra***, Calcutta.
2. „ *Mekhala*, Visakhapatnam.
3. „ *Naulakshi*, Naulakhi, Gujarat.

T. S. ***Bhadra*** also gives courses for General purpose or integrated crew.

A scheme for training and certification of cooks to serve on ships has been introduced at the Institute of Catering Technology and Applied Nutrition at Calcutta and Bombay.

T. S. ***Bhadra*** (Calcutta) and T. S. ***Rajendra*** (Bombay) also admit fresh candidates to train as Bhandaries and Saloon ratings in a 12 weeks course.

For details the Capt. Superintendent of training ships or institution will have to be contacted.